

CONFERENCE PROCEEDINGS

# GLOBALIZATION

economic, social and  
moral implications



7-8 APRIL 2017  
MARYLAND, USA

## ORGANIZERS



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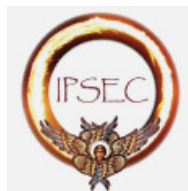
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### ECONOMIC, SOCIAL AND MORAL IMPLICATIONS

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# Monetary Inflation Mechanism. An Empirical View

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**Abstract:** We prefer to reconsider once again our larger paper published earlier<sup>1</sup>, as we did it already for at least three of its revealed correlations: between nominal GDP and both monetary reserves and money supply (Andrei & Andrei 2014a, b) and between money multiplier and velocity (Andrei 2014), this time for something within our database (i.e. the Federal Reserves of Saint Lois State/FRED) that regards the inflation rate from nearby. Following our basic paper reference's basics, inflation might be proper to both representative and fiat monies, but more deeply to the latter, although both monies again keep either the money supply and reserves as components. On the other hand, the same inflation is a so reach topic for theorists of all groups of thinking, e.g. there are some that identify it out of just money origins. This paper below tries to explain a monetary inflation mechanism in normal (out of crisis) environment.

**Keyconcepts:** inflation (rate), (required & excess) monetary reserves, Fed, cointegration, fiat money, money supply

**JEL Classification:** B1, C5, E5

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1 Andrei, LC & Andrei, D (2014).

## 1. Introduction

As much as in our referred paper (Andrei & Andrei 2014) we will here try to deepen the relationship between *inflation* and *excess (monetary) reserves*, namely what FRED<sup>2</sup> calls *Excess Reserves of Depository Institutions*: those deposits held by depository institutions at the Fed not used to satisfy statutory reserve requirements plus that vault cash held by the same institutions not used to satisfy statutory reserve requirements. *Excess reserves* (EXCRESNS, as noted by FRED or Rx by us, as primarily) equals *total reserves less required reserves*<sup>3</sup>.

As for *total reserves* (Mo), they belong to all commercial banks and appropriate institutions and are managed by Fed. Just mentioning also that actually Mo includes M1, as opposite to the next following monetary aggregates (M1, M2, M3) integration rule (M1, M2, M3). Moreover, M1 accounts twice within the Fed's monetary base – first as included in Mo, next as individually in the monetary aggregates' successive integration<sup>4</sup>.

The *excess reserves* (Rx/EXCRESNS) might here reflect the *banks' abstention from crediting on the investments level*, given an *inflation rate* already reached. In reality, the inflation rate level isn't supposed to be fully *endogenized* by happenings of the banking system only<sup>5</sup>. This description will be continuing by the below comment.

## 2. The model, as shortly

Then, the excess reserves (Rx/Rt) and inflation (IR) rates basic equation reports as follows:

$$Rx/Rt = (A) + (B) IR$$

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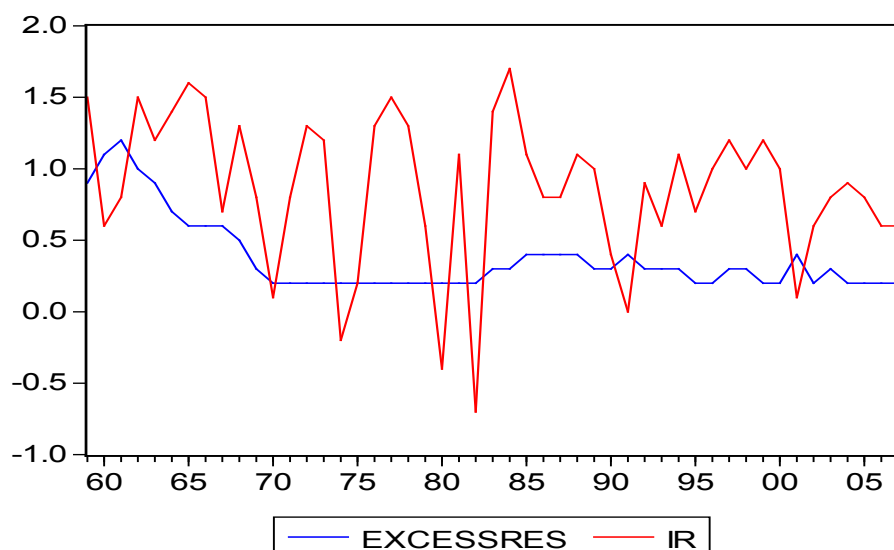
2 As by initials (FRED): Federal Reserves Economic Data/ actually Federal Resereves of Saint Lois State.

3 EXCRESNS or Rx are denominated in bill.\$ and accounted as monthly, not seasonally adjusted and discontinued series.

4 That results from the central bank's balance sheet's accounting M1 on both assets (left hand side) and liabilities (right hand side / Andrei & Andrei 2014, p 15).

5 Otherwise, the US' GDP evolving since 1959 seems to be rather continuous and no growth irregularities on both mirrors that are its nominal and real levels.

where (A) and (B) are constant. And all these above for yearly data series within the 1961-2007 interval, namely 47 pair observations, after adjustments (Andrei & Andrei 2014, pp. 88-94; 147-151). See the two series in the next graph:



And they actually prove stationary – actually, we all know this is rather rare. However, the above basic equation was then leaved behind for its weak outcomes and then, the chosen Trace test indicates two co-integrating equations at the 0.05 null probability level and two time lags (-1; -2) that will replace it, as follows:

Date: 02/19/14 Time: 13:50				
Sample (adjusted): 1961 2007				
Included observations: 47 after adjustments				
Trend assumption: Linear deterministic trend				
Series: EXCESSRES IR				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
<b>No. of CE(s)</b>	<b>Eigenvalue</b>	<b>Statistic</b>	<b>Critical Value</b>	<b>Prob.**</b>
None *	0.4215	35.665690	15.494710	0.0000
At most 1 *	0.190653	9.941798	3.841466	0.0016

The same as Vector Errors Correction (VEC) type test and model.

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.4215	25.72389	14.2646	0.0005
At most 1 *	0.190653	9.941798	3.841466	0.0016

**Equation 1:**  $D(\text{EXCESSRES}) = -0.156198 [\text{EXCESSRES}(-1) - 1.973203581^* \text{IR}(-1) + 0.16888253] - 0.034248 D(\text{EXCESSRES}(-1)) + 0.071017 D(\text{EXCESSRES}(-2)) - 0.054865 D(\text{IR}(-1)) - 0.013633 D(\text{IR}(-2)) - 0.021536$

Observations: 46			
R-squared	0.206703	Mean dependent var	-0.02174
Adjusted R-squared	0.107541	S.D. dependent var	0.084098
S.E. of regression	0.079447	Sum squared resid	0.252475
Durbin-Watson stat	1.960051		

**Equation 2:**  $D(\text{IR}) = 1.527922 [\text{EXCESSRES}(-1) - 0.5987051985^* \text{IR}(-1) + 0.16888253] + 0.692735 D(\text{EXCESSRES}(-1)) - 0.235387 D(\text{EXCESSRES}(-2)) + 0.10665 D(\text{IR}(-1)) + 0.083318 D(\text{IR}(-2)) + 0.006892$

Observations: 46			
R-squared	0.456399	Mean dependent var	-0.00435
Adjusted R-squared	0.388448	S.D. dependent var	0.696645
S.E. of regression	0.544789	Sum squared resid	11.87178
Durbin-Watson stat	2.100097		

In which, EXCESSRES replaces the above  $R_x/R_t$  ratio, and  $D(\text{EXCESSRES})$  and  $D(\text{IR})$  are differentials of the excess reserves and inflation rates, as respectively. The long term causality connection is so revealed as the very strength of this model. In Equation 1 – of the excess reserves differential endogenous -- the first coefficient (-0.156198) appears negative and much lower than 5% null probability. This is similar for -0.054865 (of precedent period inflation rate differential) and -0.013633 (of the ante-precedent period inflation rate) and -0.021536 (the free coefficient) when the

same current excess reserves endogenous, these coefficients revealing short term connections between variables.

On the contrary, for Equation 2 – of the inflation rate differential endogenous – only the first coefficient (1.527922) proves significant for all: its low null probability, absolute value and positive sign (direct relationship between variables disputed). Plus, for the long term causality it becomes similarly interesting that the inflation rate differential endogenous seems to be once more in advantage against excess reserves differential endogenous, and this for both R-squared and Durbin-Watson statistics.

*Granger causality*, in its turn, here also proves one-way: only excess reserves succeed a 10% part of inflation rate up to 15 time lags, and no any reciprocal influence. There is an equally normal errors' distribution and these errors prove *homoscedastic*.

Shortly, the most highly significant influence in the above model seems to be one of the excess reserves on inflation<sup>6</sup>.

### 3. Comments

The first challenge of this above result is for the so vast description of *inflation as a multiple exogenous function* in the whole literature<sup>7</sup> – here we see the strong monetary influence on it as refound.

Then, look at this monetary acting on inflation: this is through excess reserves, that apparently means just the opposite of the active crediting – interesting, isn't it? Actually, it might be so, but here do not omit that this model reveals such fact on longer time – so, when more monetary cycles accounted this might really be active crediting turning into excess reserves exactly for basically being inflationary nature. Another interesting point might be a similarity between inflation and, let us here recall the external balances, e.g. trade balance, current account and even total balance of payments, the really influential factor here being the trade balance. What I mean is that the trade balance accounts on the short (cyclical)

---

6 Whereas the inflation's influence on excess reserves also proves certain, but negative and weak enough (Andrei & Andei 2014, p. 151). Besides, the authors develop the same model on quarterly data series for the period between qt. II 1959 and qt. I 2007, so for 190-192 pair observations, after adjustments, with less significant results.

7 I.e. from demand-pull and cost-push inflation (classics and neoclassics) to differences between aggregate demand and supply and unemployment's contribution (Keynes, Keynesians and post-Keynesians etc.).

term, but its determinants work for shaping similar phisionomy to a longer series of successive trade balances (e.g. commercial contracts between residential and non-residential partners). So works the inflation, here especially the monetary part of it – e.g. through all output, supplies, cost, demand or unemployment factors. Thirdly, money seems to work on inflation through (monetary) reserves (Mo), as directly. Or, this is, even more, to talk about since dealing with two types of money and here assuming the above model working on the fiat post-war US dollar, as exclusively<sup>8</sup>. And even not only.

One more question is that whether and how exactly deal the *monetary reserves* with inflation – do they do it for both fiat and representative monies, as similarly or specifically? Or, actually, such a question requires a whole set of relative questions answered on the same reserves, i.e. how reserves do work in both representative and fiat monies cases?

Then, look at the important similarities: both monetary systems need reserves and this for directly acting on inflation – at the other end' representative money (reserves) look(s) non-inflationary, whereas fiat money (reserves) look(s) inflationary as by definition. So, explanations needed for both.

As for *representative money*, things are simpler, namely reserves are exogenous (for money supply) within the monetary system. Is this enough for the presumable non-inflationary picture? Of course, not – here, money is 'represented' by an individual (be it) non-monetary reference of different price evolving against all (the other) market goods.

All that can be asserted is that representative money appears this way as a simpler picture than the other (fiat money) opposed system that will be immediately described below. But the retort here might be that the example of *gold standard* appears non-inflationary (Andrei, 2011, p.186) to all those arguing about it<sup>9</sup>. So, which is the immediate truth? The truth here is that this gold reference results from a tremendously long artificial selection and market competition between monetary references (Andrei, 2011, p. 143) – and this might be the other similarity between representative and fiat money systems, namely the long term

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8 Just skipping the Andrei & Andrei (2014)'s argument advanced on the existent mixture of representative and fiat money.

9 And that whilst a large plurality of opinions on the so controversial topic that gold standard is (Andrei, 2011, pp. 220-226).

acting on their (own & specific) monetary reserves. As for the opposite *fiat money*, essentially, the exogenous shifts from reserves to *money supply*, whereas, though, reserves still exist in such conditions, work on the same money supply and keep a good word on inflation as well. All that here keeps more complicated than in the other representative money system and case is a kind of Hegelian-Marxian *„dialectique’*, through which, first, money supply (instead of an external reference value, as in the other system-case) makes itself the reserves, then the last do adjust the same money supply – but this is the next cyclical timing of the latter.

#### 4. As concluding

Of which process, the excess reserves might be the extra result and/or both inflation producer and, possibly, then the self-adjusting tool of total reserves in such non-representative money specific environment.

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## **Romanian Capital Market in a Globalized World**

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**Abstract:** Globalization is a central topic in the financial literature, as its impact observed or estimated on local economies is sometimes invalidated by the macroeconomic variables. The positive effects induced by globalization are usually closely followed by several preconditions of future crisis, leading to an exposure of less developed economies to shocks induced by globalized markets.

In this article, we use the daily returns of 12 capital markets - developed, emergent and frontier markets (mainly from the Central and Eastern Europe), between January 1st, 2007-March, 17th, 2017, in order to reveal the impact that turbulences on these markets have on the Romanian capital market. We use VAR models to capture the impact the developed capital markets have on the less developed Romanian capital market. The obtained results show the major influence that the developed capital markets, especially the US capital market, have on the volatility of the daily returns from the Romanian capital market.

This result emphasizes the need for a reform of the Romanian capital market, in order to better fulfill its role as a financing venue for the Romanian companies.

**Keywords:** capital market, contagion risk, volatility

**JEL Classification:** C13, C22, C58, D53, G01, G15

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## 1. Introduction

The globalization phenomenon has changed the global economic and financial landscape, contributing to fostering the economic growth and intensifying international commerce. Moreover, the globalized economy and markets lead to the re-establishment of financial institutions, such as those characteristic to the capital markets, in countries less developed, among them being some of the former Soviet satellites from Eastern Europe. As such, after 1990, an extensive plan of economic reforms was implemented, including the start of operations on the local capital markets that were re-established with the support of western developed countries. Although the positive effects incurred by the globalized economies have helped reducing the development gaps between a large number of countries, there were also present some negative developments, that became evident especially in times of turbulences, associated with increased volatility. The negative effects triggered by the attachment to a globalized economy were seen in the aftermath of the global financial crisis that started in US in 2007, that impacted almost every stock market in the world. The crisis showed the direct connection between the integration degree of local financial markets into the global financial sector and the impact generated by a global crisis' occurrence. As markets become more integrated, the effects induced by a shock are almost identical within particular clusters of capital markets (*developed, emerging or frontier markets*), as the structure of active institutional investors on these markets (*as for example, pension funds, closed-end funds, open-end funds etc.*) is a homogenous one. The negative effects are induced by the presence in a globalized world, but there are also important risks deriving from the local capital market's openness toward the global financial system, the active institutional investors' structure and the independence of the monetary and financial authorities.

Due to globalization, turbulences in the capital markets evolved into large outflows from the less developed markets (that offered more attractive returns),

such as the emerging and frontier markets, toward the developed ones, with an associated large increase in the volatility of the markets. Such increased volatility was mainly due to massive inflows (*that lead to soaring prices*) in the years preceding the financial crisis and outflows (*that lead to plunging prices*) when the financial turbulences became large scale events.

This was also the case for the Romanian capital market, which grew rapidly in the years before Romania joined the European Union, later on experiencing a severe crisis during 2009-2011, followed by a smooth recovery until 2017.

In this article, using the VAR models, we assess the connections between the Romanian capital market's performance during January 1<sup>st</sup>, 2007 and March 17<sup>th</sup>, 2017 and those corresponding to developed countries and capital markets (*such as the US, UK, France and Germany*) as well as those from the Central and Eastern Europe. We use the daily returns of the main indices from the 12 selected markets, in order to emphasize the impact the developed markets' returns have on the less developed markets.

## **2. Globalization in Financial Literature**

The globalization phenomenon is central in financial literature, as it brought along new opportunities and unprecedented risks. The globalization phenomenon leads to an increased interconnectedness between markets, as well as an increased exposure to shocks occurring in a specific market. The volatility that spreads from a country to another emphasized the need to study and understand the causes of the turbulences present in financial markets, in order to better assess the effects induced on less developed markets.

Mishkin (2005) analyzed the effects financial globalization has on the developing countries and found that the financial development is a key element in promoting economic growth. But also, the negative effects of the financial globalization are emphasized, as globalization leads to severe financial crisis. Moreover, it is found that the current wave of globalization is actually the second wave of globalization of international commerce and financial flows, considering the fact that the first one occurred during 1870-1914. The current great wave of globalization is facilitated by the establishment of new international financial institutions, such as the International Monetary Fund and the World Bank, as well as the

General Agreement on Tariffs and Trade. In this respect, the beneficial effects of globalization can be withdrawn after the economies go through an institutional consolidation of the actors that are present in a local economy.

Globalization was also analyzed considering the effects in employment and in the within-country income inequality. A large stream of literature was dedicated to the impact globalization has on employment, the Heckscher-Ohlin prediction being that both trade and foreign direct investments should take advantage of the labor from the developing countries, leading therefore to an expansion in local employment. This prediction was invalidated by the models proposed by Grossman and Helpman (1991), Faberberg (1988, 1994) or Montobbio and Rampa (2005).

The relation between globalization and within-country income inequality was studied since the Stolper-Samuelson (1941) theorem, which argues that both trade and foreign direct investments should take advantage of the abundance of low-skilled labor in developing countries, leading therefore to an increasing demand for domestic low skilled labor and a decreasing within-country wage dispersion and income inequality. This theorem was also invalidated by the more recent studies, arguing that the results are valid only under some restrictive conditions, as proposed by Davies (1996), Stiglitz (2002) or Lee and Vivarelli (2006).

In the Romanian capital market case, Armeanu, Pascal and Cioacă (2014) used the VAR model to analyze the contagion effects considering the daily returns of 6 European countries (*Romania, France, Germany, Portugal, Italy, Ireland, Greece and Spain*). It was found that Italy and Spain were the most sensitive to financial shocks. Also, the behaviour of the selected markets was assessed, considering various shocks, such as the Lehman Brothers collapse and the sovereign debt crisis, that were found to have induced the most severe shocks.

The impact that the returns of the developed capital markets have on the Romanian capital market's returns were also studied in Armeanu et al. (2012; 2013). Using the daily returns of the Istanbul Stock Exchange and the Bucharest Stock Exchange, during a one year period (October 1<sup>st</sup>, 2011- October 1<sup>st</sup>, 2012), Armeanu et al. (2013) found the existence of a cointegration relation, which revealed a positive relationship between the returns. In Armeanu et al.(2012), the increased volatility of the daily returns for the US, German and Romanian

capital markets were analyzed, providing evidences of the importance for the later market of the evolution of the first two markets.

### 3. Methodology and Data

In order to analyze the relationships between different markets, we use the autoregressive vector concept (VAR), defined by Sims (1980), who eliminated the identification problem that an economist is facing when trying to find the appropriate model that describes the evolution of the selected variables. The autoregressive vectors follow an asymptotic distribution and for almost tested hypothesis, the number of degrees of freedom associated with this Chi-square distribution is not largely different from the number of degrees of freedom of the calibrated distribution (*therefore, it is difficult to rely on the results of F-statistic tests*). For every proposed VAR model, that considers the variables' current and past values, we assess its validity by using some statistical tests, in order to find the ones that produce better results for the users.

For a univariate autoregressive vector, Sims and Watson (2001) proposed a model consisting in a single linear equation, where the current values of a variable are explained by its past values. By generalizing this approach and considering that the model is linear, for an autoregressive vector with  $p$  components, the model is a linear relation of the past values of the variable and the past and current values of the other  $(p-1)$  variables. Therefore, a VAR model with  $p$  variables is a system of  $p$  equations, each variable being a linear relation of its own past values and a linear combination of the current and past  $(p-1)$  other variables.

Stock and Watson define 3 alternative forms of the VAR model, respectively the reduced form VAR, the recursive VAR and the structural VAR. In the reduced VAR model, Stock and Watson proposed that each variable is given by a linear combination of its own past values and those of the other variables, as well as an error term that is uncorrelated with them. In the recursive VAR model, the order of the considered variables is important, each equation's error terms are uncorrelated with other equation's error terms and the estimation of each regression's components is done using the least square method (*the obtained results have not correlated error terms*). In the structural VAR model, the order of the selected variables is the result of an economic reasoning, by considering the

causality relations between the variables (*such that the number of structural VAR models depends on the goals followed by the researcher*).

Moreover, the supposedly relations expected to exists between the selected variables can be further analyzed with the Granger causality test, with the Impulse-Response Analysis and to make the variance decomposition of the forecasted errors. The Granger causality tests show whether the past values of a variable are useful to predict the values of a different variable. So, if the p-value associated to the F-statistic is less than the significance level, then the independent variable's past values explain the future values of the dependent variable.

The Impulse-Response Analysis can be used to assess the impact generated on the current and future values of each variable by the increase of the current error of the VAR model with one unit (*it is assumed that the error term goes back to zero in future, and all the other values of the term error are equal to zero*). This analysis is used with recursive and structural VAR models (*as in the reduced form, the error terms are correlated*).

The variance decomposition of the forecasted errors is an indicator that shows the percentage from the forecasted error's variance that is given by the occurrence of a shock within a time interval (*therefore, showing the relative importance of each event that influences the variables studied in the VAR model*).

Pfaff (2008) defines the general form of a VAR (p) process as being given by:

$$y_t = A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + u_t,$$

where  $y_t = (y_{1t}, y_{2t}, \dots, y_{pt})$ ,  $A_i$  are  $(n \times n)$  matrices, with  $i = 1, \dots, p$ , and  $u_t$  is a  $n$ -dimensional process with null estimated mean (or  $E(u_t) = 0$ ), and the covariance matrix  $E(u_t u_t^T) = \Sigma_u =$

$$\begin{bmatrix} \sigma_{u1}^2 & 0 & \dots & 0 & 0 \\ 0 & \sigma_{u2}^2 & & 0 & 0 \\ & \vdots & \ddots & & \vdots \\ 0 & 0 & \dots & 0 & \sigma_{un}^2 \end{bmatrix},$$

being constant and positive defined.

For the validity of this model, the necessary condition is that  $\det(I_n - A_1 z - \dots - A_p z^p)$  is not null for  $|z| \leq 1$ , meaning that the stationary condition is being fulfilled. If the VAR(p) model is stationary, the stationary time series that are generated have constant means, variances and covariances. In the case of a solution that is equal to one, at least one of the considered variables is integrated of level one or there are cointegration relations between the analyzed variables.

Moreover, the general VAR(p) can also be written as an VAR(1) process:

$$= \xi_t = A\xi_{t-1} + v_t, \text{ where } \xi_t = \begin{bmatrix} y_t \\ \vdots \\ y_{t-p+1} \end{bmatrix}, A = \begin{bmatrix} A_1 & A_2 & \dots & A_{p-1} & A_p \\ I & 0 & & 0 & 0 \\ & \vdots & \ddots & \vdots & \\ 0 & 0 & \dots & I & 0 \end{bmatrix},$$

$$v_t = \begin{bmatrix} u_t \\ 0 \\ \vdots \\ 0 \end{bmatrix}, \text{ and the first and the third are } (np \times 1) \text{ vectors, and the matrix } A \text{ is of}$$

$(np \times np)$  type. Considering the previous properties, the model is stable if the absolute values of the matrix A's eigenvalues are less than one.

These concepts will be used for data for the January 1<sup>st</sup>, 2007 - March 17<sup>th</sup>, 2017 time frame, representing the main indices of Romania and other 11 countries, with developed capital markets (*France, Germany, United Kingdom, Austria, Italy and US*), emerging capital markets (*Czech Republic, Greece, Poland, Hungary and Turkey*) and frontier markets (*Romania and Bulgaria*), using the MSCI classification (*available mid-March 2017*). The data consists in the closing values of the main indices from 12 capital markets: DJIA (US), FTSE 225 (United Kingdom), CAC40 (France), DAX30 (Germany), ATX (Austria), Italy (FMIB), PX (Czech Republic), ATHEX (Greece), WIG20 (Poland), BUX (Hungary), SOFIX (Bulgaria), XU100 (Turkey) and BET (Romania). These data are available on Thomson Reuters and [www.stooq.com](http://www.stooq.com), as well as the official websites of the market operators and were used to calculate the daily returns of the analyzed markets and, afterwards to use VAR models.

## 4. The Results

Considering the daily returns for each of the 12 selected indices during the January 1<sup>st</sup>, 2007 - March 17<sup>th</sup>, 2017 time frame, the descriptive statistics are considered in Table 1:

**Table 1 Descriptive statistics for selected indexes (01.01.2007-17.03.2017)**

	BET	DJIA	FTSE	DAX	CAC40	FMIB	WIG20	XU100	ATX	BUX	PX	SOFIX
Mean	-1.64E-06	8.89E-05	8.71E-05	0.000106	-1.58E-05	-0.000118	-6.02E-05	0.000139	-7.36E-05	4.83E-05	-7.42E-05	-0.00010
Median	0.00000	0.000134	0.000180	0.000260	4.26E-05	0.000000	0.000000	7.22E-05	0.000000	0.000000	0.00000	0.00000
Maximum	0.05579	0.045637	0.032408	0.046893	0.046012	0.047226	0.035416	0.052668	0.052207	0.057227	0.05369	0.03167
Minimum	-0.05135	-0.035614	-0.032383	-0.032283	-0.041134	-0.057898	-0.036666	-0.048049	-0.044527	-0.054934	-0.07029	-0.04933
Std. Dev.	0.00669	0.005123	0.005157	0.006274	0.006513	0.007460	0.006373	0.007219	0.007241	0.006848	0.00638	0.00532
Skewness	-0.54996	-0.093822	-0.425783	-0.003111	-0.012073	-0.203013	-0.278591	-0.251739	-0.248954	-0.076719	-0.54078	-0.97130
Kurtosis	13.6072	13.49803	7.282826	8.804006	8.884971	7.572277	6.736226	7.336831	8.673066	11.24940	19.1257	14.3643
Jarque-Bera	12628.0	12241.67	2117.316	3740.608	3845.757	2339.712	1584.547	2116.631	3601.258	7559.294	29005.0	14759.7
Sum	-0.00437	0.236886	0.232088	0.283401	-0.042007	-0.313804	-0.160477	0.369901	-0.196117	0.128750	-0.197746	-0.28506
Sum Sq. Dev.	0.11923	0.069916	0.070837	0.104863	0.113012	0.148247	0.108198	0.138843	0.139665	0.124917	0.10870	0.07561
Observations	2665	2665	2665	2665	2665	2665	2665	2665	2665	2665	2665	2665

Source: www.bvb.ro, own calculation

We continue to study these variables, and use the Granger causality tests (*for each pair of the daily returns series*) in order to capture the causality relations. In Table 2 are presented a part of these results, being emphasized the relation of the BET index with the other 11 indices.

**Table 2 Pairwise Granger Causality Tests for selected indexes (01.01.2007-17.03.2017)**

Pairwise Granger Causality Tests

Date: 03/19/17 Time: 13:15

Sample: 1/01/2007 3/17/2017

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DJIA does not Granger Cause BET	2663	218.915	1.E-88
BET does not Granger Cause DJIA		1.41368	0.2434
FTSE does not Granger Cause BET	2663	41.1786	2.E-18
BET does not Granger Cause FTSE		3.04108	0.0479
DAX does not Granger Cause BET	2663	55.0548	4.E-24
BET does not Granger Cause DAX		2.17018	0.1144

CAC40 does not Granger Cause BET BET does not Granger Cause CAC40	2663	41.9016 0.85945	1.E-18 0.4235
FMIB does not Granger Cause BET BET does not Granger Cause FMIB	2663	35.9824 0.20001	4.E-16 0.8187
WIG20 does not Granger Cause BET BET does not Granger Cause WIG20	2663	32.8641 0.95707	8.E-15 0.3841
XU100 does not Granger Cause BET BET does not Granger Cause XU100	2663	20.1695 0.59520	2.E-09 0.5515
ATX does not Granger Cause BET BET does not Granger Cause ATX	2663	51.3310 0.93908	1.E-22 0.3911
BUX does not Granger Cause BET BET does not Granger Cause BUX	2663	20.9168 0.40194	1.E-09 0.6691
PX does not Granger Cause BET BET does not Granger Cause PX	2663	23.6809 3.40817	6.E-11 0.0332
SOFIX does not Granger Cause BET BET does not Granger Cause SOFIX	2663	3.21744 4.49288	0.0402 0.0113

Source: [www.bvb.ro](http://www.bvb.ro), own calculation

From this table, the probability values indicate that, except for the Bulgarian and the Czech Republic capital markets, the Romanian capital market is not in a causality relation with any other capital market (*as the test shows that BET does not Granger cause any of the other 9 capital markets*). Also, from the Table 2 we can find that is rejected the null hypothesis that the 11 analyzed capital markets do not Granger cause the BET index (*with the only exception being Bulgaria, but the probability level being less than 5%*). Therefore, the Romanian capital market is influenced by the other 11 capital markets.

Using the conclusions derived from the Granger causality tests, we can say that the US market has a significant influence over the other markets, as it is rejected every null hypothesis of DJIA not being in Granger causality relation.

Considering the importance of each analyzed capital market within the global financial system and with the aim of assessing the impact the other capital markets have on the Romanian capital market, we construct a VAR model for

the 12 time series, the selection order being BET, DJIA, FTSE, DAX, CAC40, FMIB, WIG20, XU100, ATX, BUX, PX and SOFIX for 1 lag, using daily data. We choose the model with one lag, as the results of test for lag length provides the results presented in Table 3 (*we consider the choice provided by the Schwarz information criterion and Hannan-Quinn information criterion*):

**Table 3 Lag selection test for selected indexes (01.01.2007-17.03.2017)**

VAR Lag Order Selection Criteria

Endogenous variables: BET DJIA FTSE DAX CAC40 FMIB WIG20

XU100 ATX BUX PX SOFIX

Exogenous variables: C

Date: 03/19/17 Time: 11:29

Sample: 1/01/2007 3/17/2017

Included observations: 2657

Lag	LogL	LR	FPE	AIC	SC	HQ
0	128949.2	NA	1.15e-57	-97.05475	-97.02817	-97.04513
1	129811.1	1715.220	6.69e-58	-97.59508	-97.24956*	-97.47003*
2	130049.6	472.5288	6.23e-58	-97.66622	-97.00175	-97.42573
3	130207.6	311.5981	6.16e-58	-97.67676	-96.69335	-97.32084
4	130371.8	322.4516	6.07e-58	-97.69200	-96.38965	-97.22065
5	130542.5	333.5552	5.95e-58	-97.71210	-96.09080	-97.12531
6	130697.9	302.1244	5.90e-58*	-97.72063*	-95.78039	-97.01840
7	130840.7	276.5228	5.91e-58	-97.71975	-95.46056	-96.90209
8	130955.9	222.0981*	6.04e-58	-97.69811	-95.11998	-96.76502

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5%level)

FPE: Final prediction error

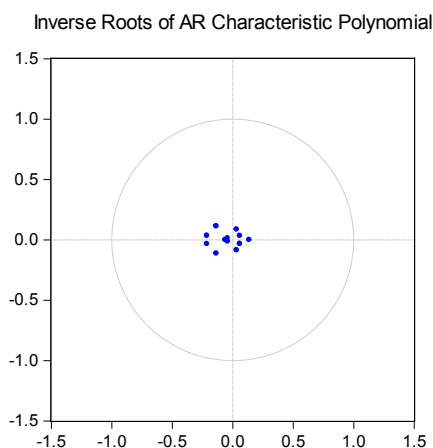
AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Source: www.bvb.ro, own calculation

Therefore, for the proposed VAR model, we can see that the model is stable, as can be seen from the fact that all eigenvalues are less than one in absolute value (*graphically represented in Figure 1*).



**Figure 1 Inverse Roots of AR Characteristic Polynomial**

**Source: own calculation**

Applying the VAR Granger Causality test on the daily returns time series, for the selected period, we find that the returns of the US, French and Austrian capital markets influence the daily returns' volatility of the BET index from the Bucharest Stock Exchange (*the results being presented in Table 4*).

**Table 4 VAR Granger Causality/Block Exogeneity Wald Test  
(01.01.2007-17.03.2017)**

VAR Granger Causality/Block Exogeneity Wald Tests

Date: 03/19/17 Time: 11:29

Sample: 1/01/2007 3/17/2017

Included observations: 2664

Dependent variable: BET

Excluded	Chi-sq	df	Prob.
DJIA	313.7595	1	0.0000
FTSE	0.283912	1	0.5941
DAX	0.384891	1	0.5350
CAC40	11.63787	1	0.0006

FMIB	0.062263	1	0.8030
WIG20	2.444602	1	0.1179
XU100	0.091517	1	0.7623
ATX	12.56230	1	0.0004
BUX	0.198408	1	0.6560
PX	0.047214	1	0.8280
SOFIX	0.458682	1	0.4982
<hr/>			
All	473.2171	11	0.0000
<hr/>			

Source: own calculation

Furthermore, the model we find is given by the following relation that reflects the positive impact the returns from the US, German and French capital markets have on the returns of the Romanian capital market:

$$\begin{aligned} \text{BET} = & -0.00466 \cdot \text{BET}(-1) + 0.53530 \cdot \text{DJIA}(-1) + 0.024813 \cdot \text{FTSE}(-1) + 0.03282 \cdot \text{DAX}(-1) \\ & - 0.222047 \cdot \text{CAC40}(-1) + 0.0092534 \cdot \text{FMIB}(-1) + 0.043309 \cdot \text{WIG20}(-1) + 0.006360 \cdot \text{XU100}(-1) \\ & + 0.11111 \cdot \text{ATX}(-1) - 0.010634 \cdot \text{BUX}(-1) - 0.00669 \cdot \text{PX}(-1) - 0.016504 \cdot \text{SOFIX}(-1) \\ & - 4.93915336111\text{e-}05 \end{aligned}$$

In order to derive a conclusion, we also test the existence of some cointegration relations between the variables used in the model, the results being presented in Table 5, that shows that there are 12 cointegrated relations.

**Table 5 The cointegration test for the daily index returns  
(01.01.2007-17.03.2017)**

Date: 03/19/17 Time: 11:30  
Sample (adjusted): 1/03/2007 3/17/2017  
Included observations: 2663 after adjustments  
Trend assumption: Linear deterministic trend  
Series: BET DJIA FTSE DAX CAC40 FMIB WIG20 XU100 ATX BUX PX SOFIX  
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.496818	14852.32	334.9837	1.0000
At most 1 *	0.436113	13023.36	285.1425	0.0000
At most 2 *	0.430433	11497.72	239.2354	1.0000

At most 3 *	0.397658	9998.774	197.3709	1.0000
At most 4 *	0.387619	8648.818	159.5297	1.0000
At most 5 *	0.364743	7342.881	125.6154	1.0000
At most 6 *	0.358618	6134.610	95.75366	1.0000
At most 7 *	0.337470	4951.891	69.81889	1.0000
At most 8 *	0.329210	3855.562	47.85613	1.0000
At most 9 *	0.317708	2792.230	29.79707	1.0000
At most 10 *	0.313074	1774.170	15.49471	1.0000
At most 11 *	0.252260	774.1352	3.841466	0.0000

Trace test indicates 12 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.496818	1828.960	76.57843	1.0000
At most 1 *	0.436113	1525.635	70.53513	1.0000
At most 2 *	0.430433	1498.949	64.50472	1.0000
At most 3 *	0.397658	1349.956	58.43354	1.0000
At most 4 *	0.387619	1305.938	52.36261	1.0000
At most 5 *	0.364743	1208.271	46.23142	0.0000
At most 6 *	0.358618	1182.719	40.07757	1.0000
At most 7 *	0.337470	1096.329	33.87687	1.0000
At most 8 *	0.329210	1063.333	27.58434	0.0000
At most 9 *	0.317708	1018.060	21.13162	0.0001
At most 10 *	0.313074	1000.035	14.26460	0.0001
At most 11 *	0.252260	774.1352	3.841466	0.0000

Max-eigenvalue test indicates 12 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Source: own calculation

From this test, we can find the cointegrated relation, that expresses the Romanian capital market's returns as the returns of the other returns, as a long-run equilibrium equation presented in Table 6 :

**Table 6 The cointegration equation for the Romanian daily index returns  
(01.01.2007-17.03.2017)**

Normalized cointegrating coefficients (standard error in parentheses)											
BET	DJIA	FTSE	DAX	CAC40	FMIB	WIG20	XU100	ATX	BUX	PX	SOFIX
1.00000	74.34309	-6.156459	-4.204587	-27.10106	10.96140	-9.615423	-2.461896	-14.98300	-0.246702	1.268634	-4.113769
	(1.55662)	(1.76652)	(2.11071)	(2.70719)	(1.51304)	(1.09764)	(0.82655)	(1.34544)	(0.94716)	(1.26406)	(0.88909)

Source: own calculation

We can also consider the variance decomposition of the forecasted errors of the VAR model for the daily data of the 12 time series that are presented in Table 6. Considering the lag 1, we can find that the largest impact in the volatility of the forecasted errors for the Romanian capital market is due to the volatility of the US capital market, but also to those of the Austrian, French and Polish capital markets.

**Table 6 The cointegration equation for the Romanian daily index returns  
(01.01.2007-17.03.2017)**

Variance De-composition of BET:													
Period	S.E.	BET	DJIA	FTSE	DAX	CAC40	FMIB	WIG20	XU100	ATX	BUX	PX	SOFIX
1	0.00615	100.000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	0.00668	85.9743	13.0828	0.00483	0.07994	0.28808	0.01588	0.13638	0.00564	0.38827	0.00730	0.00248	0.01396
3	0.00670	85.5606	13.2222	0.07349	0.13818	0.32753	0.01787	0.13576	0.00604	0.38704	0.02482	0.09247	0.01391
4	0.00670	85.5366	13.2307	0.07425	0.14587	0.32768	0.01791	0.13597	0.00625	0.38849	0.02487	0.09718	0.01403
5	0.00670	85.5353	13.2309	0.07437	0.14620	0.32769	0.01792	0.13598	0.00629	0.38864	0.02490	0.09762	0.01405
6	0.00670	85.5352	13.2309	0.07437	0.14622	0.32769	0.01792	0.13598	0.00629	0.38865	0.02490	0.09765	0.01405
7	0.00670	85.5352	13.2309	0.07437	0.14622	0.32769	0.01792	0.13598	0.00629	0.38866	0.02490	0.09765	0.01405
8	0.00670	85.5352	13.2309	0.07437	0.14622	0.32769	0.01792	0.13598	0.00629	0.38866	0.02490	0.09765	0.01405
9	0.00670	85.5352	13.2309	0.07437	0.14622	0.32769	0.01792	0.13598	0.00629	0.38866	0.02490	0.09765	0.01405
10	0.00670	85.5352	13.2309	0.07437	0.14622	0.32769	0.01792	0.13598	0.00629	0.38866	0.02490	0.09765	0.01405

Source: own calculation

This result is mainly due to the importance of the US capital market in the global financial system, as the volatility is spreading from this developed capital market towards the less developed capital markets.

Also, the volatility of the Romanian capital market's returns is dependent also in volatility of the Austrian capital market, considering the relevance of the Austrian financial system to the Romanian financial system (*as the Austrian intermediaries and financial companies are present on the Romanian financial market, also as issuers or intermediaries*). Moreover, the importance of the Polish capital market, as well as the Austrian one, is derived from the fact that these two capital markets are the most relevant for the Central and Eastern Europe.

## 5. Conclusions

Using data from the January 1<sup>st</sup>, 2007-March, 17<sup>th</sup>, 2017 time interval, for 12 capital markets from developed countries (USA, United Kingdom, France, Italy and Germany) and from the Central and Eastern Europe (Austria, Poland, Greece, Romania, Hungary, Czech Republic, Turkey and Bulgaria), we analyzed the possible relations that can exist between the returns of the selected countries. To this purpose, we used a VAR model for daily data that explains the Romanian capital market's returns in relation with the other markets.

We obtained that the volatility of the daily returns of the Romanian capital market is influenced by the volatility of the US capital markets, as well as by changes in the most important capital markets from the Central and Eastern Europe, namely the Austrian and the Polish ones.

This result is of interest for a large area of users, as it reveals the need of a reform of the Romanian capital market, to strengthen its place as a financing venue for the Romanian companies and as an alternative attractive destination for foreign institutional investors.

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## Migration and Globalization: Challenges and Perspectives

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**Abstract:** The globalization of modern world stimulated marked increases in the migration to locations both near and far supported by several factors either of economic, social or environmental nature or by political instability and the development of some sophisticated, modern transport systems and networks that facilitated easier, cheaper and quicker movement of individuals than in any other moment in mankind's history. Thus, the number of international migrants reached 244 million in 2015 on increase by 41% as compared with the year 2000. Characteristic for the migration phenomenon by the end of the 20<sup>th</sup> century and the beginning of the third millennium is the change in the structure, dimension and typology of migration flows, as the workforce demand regarding the labor force market in the countries of destination is addressed especially to high-skilled immigrants. Even though for most of the times, the volume, diversity, geographic expansion, as well as the general complexity of international migration are considered as on increase as effects of the globalization processes, still this idea remains for its largest part unverified. The paper presents a brief analysis of the main globalization characteristics of globalization and its impact on the volume, structure, and trends of the migration flows.

**Keywords:** globalization, migration, urban immigration, economic and social effects  
**JEL Classification:** F22, J10, J21, J24, J61, O15, R23

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## Introduction

Globalization increased the interconnectedness of national states, accelerating the flows of goods, services, ideas and people beyond national borders. International migration was present earlier than globalization but the speed, scale, complexity and volume of world migration within the global era remains unprecedented.

Transnational flows of goods and capital were made possible by gradual lowering the barriers to trade and investments beyond national frontiers during the last decades and allowing thereby for the expansion of world economy.

The World Bank Report “Globalization, Growth and Poverty”<sup>1</sup> indicated that while countries pursued to promote integrated markets by liberalizing trade and investments, these elaborated a series of policies which were, to a large extent, opposed to migration liberalization. However, despite governments’ reluctance to liberalize policies in the field of immigration, the number of individuals living outside their countries of origin increased from 120 million in the year 1990 to 244 million in the year 2015, a figure representing 3.3% of the world population.

The increase in social, economic and cultural links between countries facilitated migration for an increasingly larger number of individuals and the diversification of this phenomenon regarding structure of these immigrant populations not only of the countries of origin, and with respect to migration types: for labor, education, family and asylum, temporary migration and permanent migration coexisting increasingly more.

The determinant factors of international migration are diverse and complex. From the reasons classified as “push and pull” factors, globalization imposed the implementation of a third set of motivations under the designation of “network”, which includes the free flow of information, improvement of communication at world level, along with swifter and cheaper transport. These latter factors are not a direct migration reason, but elements contributing to favoring migration. It should be noticed that modern globalization is not determined only by the technological progress, but also by the political and ideological changes.

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1 *Globalization, Growth, and Poverty: Building an Inclusive World Economy*, The report is written by Collier P., Dollar D., World Bank Publications, 2002

Regarding the contemporary geography of labor force migration, this one mirrors the globalization of world economy and of the labor force markets, where an increasingly higher number of countries turned into participants to the migration systems at world level. A globalization of international labor force migration takes place, and the increase in the numbers of countries involved in the migration systems triggers an increasing higher diversity of the flows.

In the framework of globalization, enterprises increase and become more internationalized and, often, these externalize their production to developing countries where the labor force costs are smaller. This movement of jobs from developed countries to developing ones attenuates some of the economic factors generating migration.

The effects of migration are complex, as they bring both benefits and disadvantages, both for host countries and origin countries. Immigration provides a source of cheap labor for host countries, a resource for diminishing the effects of demographic ageing, while remittances of migrant workers might represent an important income sources for relatives remaining in the country of origin. On the other hand, immigration may generate resentments and fear against the newcomers in the communities. For the economies of the countries of origin, emigration generates losses of working age young individuals who are well-educated and to a more substantial population ageing.

Quantifying the direct or indirect impact of globalization on international migration is a difficult and complex task. The studies realized with this purpose highlight that globalization favored both legal and clandestine flows of migrants, these generating benefits and problems/ pressures in origin and host countries.

All these combined trends suggest that the migration models at world level became increasingly complex.

## **1. General characteristics of globalization**

Globalization is an extremely complex and controversial concept, yet not a new phenomenon, but a continuation of current socio-economic developments. Among the most significant characteristics of globalization in the current conjecture, might be reminded:

- i) internationalization of manufacturing accompanied by changes in its structure;
- ii) expansion of international trade and services;
- iii) expansion, diversification and deepening of international capital flows.

The globalization phenomenon is synonymous with the one of acceleration, which is found in vast technological changes, global economic integration, but also in the massive changes of the manufacturing systems and of the labor force markets. Globalization lays particular emphasis on the openness of frontiers between countries, and the economic one encourages free trade agreements between countries, multinational corporations and a free flow of goods in the entire world. The technological changes of the last decades affect the product parameters and flows between countries. Improvements taking place in the transport networks and in technology have diminished the transport costs, and the performances in the field of information and communication technologies have facilitated the access for many individuals to a higher volume of available information, at very low costs. These have important implications regarding the nature of manufacturing activities, of knowledge flows, but also on trading the realized products. Thus, economic globalization prospers due to advanced digitalized technologies that facilitate the global expansion of companies, allowing them to optimize their operations and their aggregation on the world market while at the same time saving costs for these operations.

At the same time, economic globalization has as purpose also the incorporation of peripheral regions within a single global economic system unhindered by domestic borders.

However, the globalization process is a controversial one. The supporters of this process allege that globalization supported by economic policies' liberalization and by technological process generates important benefits, such as: improving the allocation of resources; increasing competitiveness, wider consumers' choice, increasing the possibilities of accessing international capital and investment markets, and access to ideas, technologies and performance products.

Yet, in favor of these arguments are but few evidences. Thus, if the GDP growth rates are analyzed at world level, for the last decades of the 20<sup>th</sup> century and the beginning of the third millennium, these are still lower than the ones by the beginning of the seventies, when financial liberalization began. At the same time,

the weight of investments in GDP at world level was, by and large, low<sup>2</sup> and indicating the intention to realize long-term investments.

The promoters of globalization support the idea that the liberalization of commercial markets and of the capital account led to higher efficiency in resources' allocation. If, with respect to the liberalization of commercial flows several studies were realized which bring to the fore strong empirical evidence in support of this statement and of their benefits, still analyzes regarding the significant benefits generated by the liberalization of the capital account does not provide for systemic evidences. The fact that the liberalization of the capital account is a much more complex process than the liberalization of commercial flows was highlighted also by the experiences of many developing countries that were faced with the financial crises of the last years.

Some experts<sup>3</sup>, regard globalization as being an extremely unequal process. For instance, growing trade is not leading to more equitable distribution of underlying comparative advantages. Inequalities exist also regarding the entries of foreign direct investments, and in generating 'new knowledge' (a relatively small number of countries continue to dominate in innovation).

'Winners' and 'losers' of the globalization process are found both at the level of the various countries of the world, and at the level of some population segments within the same country. The increasing inequality between countries generated by the globalization process is highlighted also by the differences between the income per capita in the richest and the poorest countries. Thus, according to the World Bank statistics, in 2015, the gross domestic product (at purchasing power parity) per capita, between the two richest countries Qatar and Luxemburg, was of 141543 Int\$, respectively 11497 Int\$, while in the poorest countries, the Central African Republic and Burundi, it was of 619 Int\$, respectively 727 Int\$. The fact that some countries are the 'winners' and others the 'losers' of the globalization process, indicates also that significant differences exist in their capacity of mitigating efficiently the challenges of globalization.

All these swift increases of transnational capital, trade and technology flows have led to world level economic restructuring with disturbances for the less developed

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2 World Investment Report 2016, <http://unctad.org/>

3 Mojmir M., (2000), *Globalization: Trends, Challenges and Opportunities for Countries in Transition*, [www.unido.org](http://www.unido.org)

or developing economies. These phenomena are generating unemployment, wages decrease or jobs uncertainty in dominant market economies. (Helfti, 1997).

Nowadays, globalization is a strong process and its reversibility is less probable. Globalization presupposes a set of changes, not only one dimensional change. Many of these changes are rather of social, cultural and political nature than strictly economic.

## 2. Migration during the globalization period

Migration is not a novel phenomenon. People always left their homes in search for better economic opportunities, both inside and outside their own country.

Because economic globalization compounds the inequality between nations, migration turns for many from choice into economic necessity.

In the year 2015, at world level, there were 244 million migrants<sup>4</sup>, from among which about 58% headed towards developed regions. Almost two-thirds from total migrants headed to Europe (76 million persons) and Asia (75 million persons). North America hosted 54 million migrants, followed by Africa (21 million), Latin America and the Caribbean (9 million) and Oceania (8 million). Migrants at world level, in 2015, represented 3.3% from the world's population, on increase by 0.4 pp against the year 1990. The Statistics of the United Nations<sup>5</sup> show that in the period 1990-2015, the number of migrants at world level increased by over 91 million individuals.

The increases in the volume, diversity, geographic expansion, as well as the general complexity of international migration for the last decades are most times driven by the progresses in the field of transports and information and communication technology or, otherwise said, by the globalization phenomenon that, according to Held et al. (1999)<sup>6</sup> might be defined as “the expansion, deepening and acceleration of interconnections at world level regarding all aspects of contemporary social and economic life”.

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4 United Nations, *Trends in International Migrant Stock: the 2015 Revision* (United Nations database, POP/DB/MIG/Stock/Rev.2015). Available from [www.unmigration.org](http://www.unmigration.org).

5 Idem 3

6 Held D., McGrew A., Goldblatt D. and Perraton J., (1999), *Global Transformations: Politics, Economics and Culture*. Stanford University Press, <https://www.geog.mcgill.ca>

The technological changes of the last decades diminished the constraints related to resources regarding mobility by reducing travel and communication costs. At the same time, this allowed to the immigrants to keep contact with family and friends, to send back money to family remaining in the country of origin, and to travel much easier between the host countries and their countries of origin, thus strengthening migrant networks and transnational links.

As result of developing new technologies and communication means, the literacy and education degree increased and, both, ext to improved access to 'global' information via television and satellites, mobile phones and internet led to higher expectations and awareness degree of individuals from 'traditional' emigration countries and from other countries, as well. Thus, for the last 5 decades, international migration sped up and diversified from the viewpoint of both countries of origin and destination. In this context, Vertovec (2007)<sup>7</sup> coined the term of "super-diversity" for indicating the unprecedented degree of migrants' diversity.

The motivation for migration varies a lot between countries. In some countries like, for instance, the United States and France the main reason for emigration is family reunion. In other countries, such as Australia, Canada and United States most immigrants come in view of definitive settlement. In a free area of labor force circulation, such as the European Union, most times migration is temporary and with lucrative purposes.

One of the effects of globalization is the increase in the urbanization degree of the countries. Over 54% of the world population lived in the urban area in 2014<sup>8</sup>. The forecasts of the United Nations Department of Economic and Social Affairs indicate an increase of urban population from 3.9 billion nowadays, to 6.4 billion by the year 2050.

One of the factors for increasing urbanization is also migration. Immigration and its impact on the urban landscape which is in continuing change are both important facets of the globalization process. The difficulties in estimating the migration impact on urban population increase consist in the lack of standardized

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7 Vertovec S., (2007), *Super-Diversity and its Implications*. Ethnic and Racial Studies 30(6):1024–1054, [www.uio.no](http://www.uio.no)

8 *World Urbanization Prospects, the 2014 Revision: Highlights*. United Nations Department of Economic and Social Affairs (UN DESA), <http://esa.un.org>

institutional data regarding immigration in cities all over the world. These are destination gates for an increasingly higher number of either international or internal migrants. Thus, in towns like Sydney, London and New York, migrants represent over one third of the population, while in Brussels and Dubai they are over 50% of the population. In Seoul, the number of foreign residents doubled for the last ten years. At the same time, in Asia and Africa is registered a rapid increase of the population in small cities.

The increase in the number of migrants in the urban area is determined also by demographic ageing, by the unequal development between the regions of one country, or between countries, by the environmental and climatic imbalances, etc. In many cities migration turned into more important factor of population increase and of its structure on ages than fertility and mortality<sup>9</sup>. To these is added the fact that social networks that migrants use either for integration, survival or economic opportunities are placed in the cities. Cities are also the places that provide for better education opportunities.

Another aspect of urban migration is also the concentration of the skilled international labor force in transnational corporations. Beaverstock's studies (1994), Friedmann's (1986) and Castells' (1996) have all highlighted that high-skilled migrants from international corporations represent a vital ingredient for the latter, and the skilled migrant flows between the cities of the world might be considered as having as outcome a 'world city'.

The urban area provides for migrants higher employment chances, both for high-skilled ones and for low-skilled ones in particular. Migrants have significant and essential contributions in the economic, social and cultural environment and development in the new communities where they settle. The data provided by the World Bank indicate that over 585 billion USD were transferred by immigrants as remittances in the origin countries in 2015. Remittances are but an example of the way, in which immigration contributes among others, to increasing the living standard in origin countries, to creating links between cities and other localities of the world, and to creating new socio-economic networks.

The strong increase of the urban population represents, nevertheless, an increased pressure for infrastructure, environment and for the social structure of the city.

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9 Skeldon R., (2013), *Global Migration: Demographic Aspects and Its Relevance for Development*. UN DESA Technical paper 2013/6. [www.un.org/esa](http://www.un.org/esa)

When urban migration is well-managed it might induce an economic and social dynamic that leads to increasing the capacity of migrants from the urban area to face the shocks and pressures. To the contrary, migrants are faced with legal, cultural and social barriers but also obstacles in accessing a complete range of resources, services and opportunities that cities can provide: formal housing, labor force employment, medical care, education, and social support systems. As a consequence, they are often forced to live under conditions of exclusion, segregation and vulnerability.

Another important dimension of globalization is the increase in the cross-border flows of any kind: financial, commercial, ideas, ideologies and knowledge about democratic and economic government, culture, media products and individuals. The cross-border flows are mutually conditioning one another. Thus, the increased international links of trade, aid, investments, communications, etc. strengthen, at least on short-term the migration links and/or vice-versa. (Schiff, 1994; Czaika și Mayer, 2011).

## Conclusions

The globalization phenomenon emerged in the second half of the 20<sup>th</sup> century as result of heightened connections between countries of the world, of higher flows of goods, services, and ideas under the conditions of new discoveries in the field of science, technologies and communications.

Globalization is a system or a complex phenomenon, sometimes ambivalent, even contradictory. This phenomenon induced and imposed new movements in the international area, among the most important being counted the relatively free movement of people, goods and capital. If the economic effects of international trade and capital flows were analyzed, quantified and might be precisely identified, the net effect of migration was much less studied and understood, even if migration flows emerged much earlier than goods and capital flows.

Even though for the last decades the output per capita increased significantly, still the income distribution on countries is unequal and the differences in the living standard between rich and poor countries grew permanently. Therefore, the migration is from developing countries to developed countries.

During the last years migration became a public debate and economic analysis topic, and today is one of the key-words for the visionary entrepreneurs and for the decision factors. Globalization and internationalization of markets triggers new dimensions and components of the migration flows, an increased fluidity of movements, and the temporary migration phenomenon increases as significance. At world level, migration is on increase, however only 3.3% of the world population is involved in this phenomenon.

Under the conditions in which important migration flows join in a relatively small number of countries, it might be alleged that almost all countries are affected by this phenomenon, as they can be countries of origin, transit, and destination or all three of them.

One of the effects of globalization and migration is the increase in the urbanization degree. The urban environment provides for migrants higher employment chances, socialization networks to which they can resort for integrating into the host country, and better economic and social chances.

The consequences of migration can be of economic, social and psychological nature, as migration affects both migrants and autochthonous people. Migration might be beneficial for all parties concerned, irrespective if sending or receiving countries are at the core of the discussion, or even the migrants.

During the last years, an augmentation of labor migration occurred for the human capital in general, and for the youths with outstanding performances and high-skills in particular, brain-drain remaining an area of interest for transnational companies or for international scientific research.

During the present conjecture, the migration models are in a continuous process of change: i) the areas of departure are increasingly dissipating as the ethnicity criterion loses its footholds; ii) the criterion of distance becomes a minor one and the migration flows to destinations that are farther away gains ground, preference being given to destinations providing opportunities of professional achievement and relatively easier conditions of integrating in the new communities; iii) temporary migration fluctuates, its determinant factors being given by the labor market situation in the country of destination.

Globalization and migration represent two of the contemporary world processes which have higher dynamics, and that are extremely interdependent, however both having specific leaders/drivers and dynamics. Globalization might be regarded

as a potential strong facilitator of international migration: it increased the action room and played an important role in changing nature and models of migration. While the future increase or decline of globalization is far from being clarified, its impact on the migration issues will continue to play a significant role.

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## **Cultural Ties in a Globalization World: The Threats and Challenges**

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**Abstract:** This article describes processes of interaction of cultures in the conditions of globalization, concept of cultural globalization, the reasons and essence of this phenomenon. The authors notes positive and negative sides of process of globalization of cultures, problem of preservation of cultural diversity in the world. The authors pay particular attention to the preservation of cultural diversity in the world. The article noted the contribution of international organizations (UNESCO, Council of Europe, the World Network for Cultural Diversity) in the preservation of cultural diversity in the world. In this article indicated the challenges and threats of globalization for cultural exchange, conclusions are made about the future prospects of globalization cultural relations.

**Keywords:** culture, cultural ties, cultural globalization, multiculturalism, preservation of cultural diversity

**JEL classification:** F 53

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## **1. The impact of globalization on cultural exchange**

Contacts and relationships between cultures arise from a wide variety of reasons. In modern conditions, the rapid development of intercultural exchange occurs in different areas of human life: art, education, science, tourism, sports, economic, military, political cooperation, personal and business contacts, etc. The geopolitical, social and economic changes on a worldwide scale, which occurred in recent years, have led to the migration of peoples, unprecedented in its scope. Travelling for business, scientific, educational and other purposes were intensified; the international tourism started to develop rapidly. As a consequence, intercultural communication became much more active. As the result of these processes, more and more people overcome the cultural barriers separated them before. New cultural phenomena, new cultural ideas and shapes are formed, the borders between own and foreign cultures disappear, and new trends and authors of cultural exchange appear.

The reasons for increasing activation of intercultural relations are quite different, but they include the most important ones, which, in our opinion, are the following: development of mass media and communication; expanding opportunities for intercultural exchange; dramatically increased necessity of intercultural contacts, caused by significant migration processes; the intensification of economic and political cooperation and therefore the cultural contacts; finding ways and means of solving global problems of modern age [8, p. 32-33].

It should be remembered also about the opportunities that a global Internet network provides, which creates conditions for direct efficient communication with representatives of foreign countries and cultures. Due to the increasing openness of the world and the development of new technical means of communication, the representatives of different cultures obtain the ability for communication, active exchanges, as well as new knowledge and understanding of each other's culture.

Another important factor activating intercultural communication is globalization with its tendency to close relationship and interaction between the cultures. Globalization affects almost all the spheres and aspects of modern life. It is characterized by the processes of interaction between peoples and countries overcoming the state and national barriers, the active exchange of information of a scientific, economic, political, cultural, domestic and other nature.

There are traditionally significant differences between cultures in the means of interaction with bearers of other cultures. However, globalization eliminates these differences. The result of new intercultural relations caused by globalization was a widespread availability of direct contacts with other cultures, which was not previously possible.

## **2. The concept and essence of cultural globalization**

Some experts, taking into account the features and comprehensiveness of contemporary global processes, started to talk about the phenomenon of “cultural globalization” which is a process of integration of individual national cultures in a single global culture based on the development of vehicles, economic relations and means of communication. It is expressed in expanding cultural contacts, assimilation of cultural values and the “overflow” of people from one culture to another. In the modern sense, the term “cultural globalization” appeared in the late 80s of the XX century due to the problem of rapprochement of nations and the expansion of cultural contacts of the peoples in the process of their intercultural communication [9]. The concepts of global culture and cultural globalization were considered in detail in the works of R. Robertson, P. Berger, E.D. Smith, S. Huntington and others.

Many researchers also link the process of cultural globalization with Westernization processes, i.e., the expansion of Western individualistic cultural values and norms among the predominant part of the world’s population, or Americanization, i.e., assimilation of American cultural models. Anyway, the main causes of globalization of culture should be regarded as open borders for cultural influence and the growing cultural communication based on the activation of inter-cultural contacts.

Under the influence of globalization a certain common, unified cultural standard or sample is formed, which destroys the diversity of traditional schemes of life, customs and cultural identities. Cultural globalization catalyzes the processes of displacement of one national cultures with the other or turning them into international ones. Many researchers regard such processes as the loss of national cultural values, which represents a significant threat to the modern society.

### **3. Globalization and the problem of preserving cultural diversity**

The preservation of cultural diversity in the modern world became one of the major problems facing humanity. It is no coincidence that many international organizations proclaimed the preservation of cultural diversity as one of its most important tasks. The problem of cultural diversity firmly established in a number of key spheres of UNESCO's activities. Cultural diversity is regarded by the organization as the main condition of cultural enrichment, the preservation of moral and ethical values. Maintaining the cultural diversity is necessary to combat against poverty and achieve sustainable development, it promotes the dialogue between civilizations, cultures, respect and overall understanding.

The main document of UNESCO on world cultural diversity issues was the Universal Declaration on Cultural Diversity adopted in 2001. The Declaration of content is determined by four main issues: diversity and pluralism, cultural diversity and human rights, cultural diversity and creativity, cultural diversity and international solidarity [5].

In the development of the most important provisions of the Declaration on Cultural Diversity in 2009 UNESCO prepared the report "Investing in cultural diversity and dialogue between cultures" [4]. It notes the importance of cultural diversity for the resolution of global problems, calls for active cooperation to achieve common positive results.

The protection of cultural diversity, the preservation of the culture of peoples – all this is being actively discussed in the Council of Europe. In 2008, the "White Paper on Intercultural Dialogue" was approved, which represents the study of the experience of European countries for the purpose of population of the cultural dialogue, reduction of tension and achievement of understanding. The White Paper accumulates the European approaches to cultural diversity; it provides a large number of recommendations to countries on the implementation and facilitation of the development of intercultural dialogue. Particular attention is paid to different approaches to the problems of cultural relations. Multiculturalism has ceased to be an adequate policy. The Council of Europe proposes to replace the concept of multiculturalism with the concept of intercultural dialogue, which is based on the principle of creation of a dialogue on the basis of equal dignity and shared values [6].

At the same time, the European Union declared the “Year of Intercultural Dialogue”. The main objective of the project was to maintain the cultural diversity of European countries and to promote the development of intercultural dialogue within the EU and beyond. The events that took place within the “Year of Intercultural Dialogue” contributed to the promotion of ideas of cultural diversity and dialogue between cultures, and attracted the attention of a wider audience to the problems of the dialogue development. A positive aspect was the involvement of young people and focus on activities, primarily on a younger audience.

The World Network for Cultural Diversity is also engaged issues of preserving cultural diversity in the world, which brings together artists, cultural figures. They see their purpose to deal with cultural homogenization caused by the process of globalization. Now the organization has 500 members from 70 countries. The organization projects are carried out in different spheres: music, films, publishing, crafts, copyright, and many others. For example, in 2003, together with the International Union of musicians the workshops for African musicians were held in the countries of South Africa [2].

#### **4. Threats and challenges of globalization for cultural relations**

Indeed, globalization holds the possibility of loss of cultural identity. However, it is not quite so, because on the other hand, globalization contributes to the enrichment of national cultures with new, previously unknown cultural patterns. As the result of intensified cultural exchanges a lot of people obtained an opportunity to get acquainted easily with the cultural achievements of other nations. For example, in an international study conducted in the early 2000s only 19% of surveyed Italians, 24% of Germans, 27% of British people and 33% of the French said that American popular culture, music, TV, films represent a serious threat to the cultures of other countries in the world [7. p. 115]. At the same time, they noted that they would not want to lose the opportunity to get acquainted further with these cultural patterns.

Therefore, the processes of globalization of culture should not be assessed from one side because they simultaneously lead to the emergence of new forms of culture and lifestyle. This mix of cultures is observed not only in the life of individuals, it is increasingly becoming a feature for entire societies and states.

## Conclusions

Current trends in cultural globalization also open up new forms of culture, based on the close relationship between the economy and culture, which leads to economization of culture or culturalization of economy. This interaction has led to the formation of a vast sector of cultural industry including printing, music publication and cinematography, audio-, video- and multimedia production, computer games, CD and DVD discs. Currently, it is one of the fastest growing sectors of the world economy and trade, which amounts to 7% of the total gross income [3]. The notion of cultural industry for the first time was introduced by the representatives of the Frankfurt School, Max Horkheimer and Theodor Adorno in his "Dialectics of Enlightenment" [1].

Cultural globalization is a dialectical process that involves both integration, universalization and differentiation, both conflicts and cooperation, both absorption of cultures and cultural exchange. And all this, in our view, creates the conditions for the internal development of culture in general.

The process of cultural globalization, as well as the associated process of interpenetration of cultures, is inevitable. In terms of active cooperation between countries with different cultural values it is necessary to develop new principles of intercultural exchange which should be based not on imposition of one culture to the bearers of other cultures, but the principle of equal international dialogue when all its participants are equal and have mutual respect for the cultural identity of each other. The principles of dialogue between cultures and civilizations, equal cooperation and interaction between cultures should become the hallmarks of contemporary cross-cultural exchange.

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## **Sustainable Development - The Premise of Economic Growth in Conditions of Globalization**

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**Abstract:** Sustainable development is a relatively new concept applied to economic growth, in order to take into account, primarily, ecological aspects at the level of the Planet. This new concept was imposed because the conventional economy progress cannot ensure the needs of millions of people and undermining the possibility of future generations and ensure.

Vision on sustainable development strategies starts from the understanding that a country's economy is more than the sum of components, that changes into a subsystem or another is liable to changes, overview by virtue of interdependence existing between its dynamic components.

We need to market values, to serve the interests of the people, finding that paths that contribute to sustainable development. A sustainable economy will reconsider the important activities, which should be supported at the level of markets, those profitable both for employees and for the economy.

**Keywords:** sustainable development, economic growth, globalization, economic strategy

**JEL Classification:** O44, Q01

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## 1. Introduction

The most common definition of sustainable development is certainly the one given by the World Commission on Environment and Development (WCED) in the report “Our Common Future”, also known as the Brundtland Report: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainable development follows and tries to find a stable theoretical framework for decisions making in any situation in which it is found a man /environment report, even if we speak about the environment, economic or social issues.

## 2. Literature review

After the Second World War, under the impulse of technological progress and continuous increase in global demand for goods and services, it has opened a new era of economic development whose main core was the economic growth process. For the first time, the concept of economic growth was used by the English economist Sir Roy Harrod (1939). Neokeynesian and neoclassical economists have perfected the theory of economic growth.

In the same period, the internationalization process of the economy was increased, reaching the stage of globalization or the global integration of goods and services markets, labor market and financial market.

Globalization is the process through which the geographical distance becomes a less important factor in the establishing and developing of cross-border economic, political and sociocultural relations. The relationship networks and dependences acquire a growing potential to become international and global.

Globalization appears different defined according to some analysts of the phenomenon. Thus, Martin Allrow believes that “globalization refers to all those processes through which the world citizens are integrated in one global society, global society.” Anthony Gidees considers that the “globalization can be defined as the intensification of world wide social relations which bind in such manner the distant cities, thus the events taking place are viwed through the eyes of other similar, occured many miles away and vice versa.” Emanuel Richter considers

that the “globalization is the global network that brought together communities from this planet, once dispersed and isolated, in a mutual dependence and unity of one world”

Real processes of sustainable economic growth and globalization of the economy is not in opposition with each other, there is an organic bound through which their interdependency is manifested.

### **3. Two interrelated trends in the contemporary world: economic growth and globalization**

Economic growth means the real process by which a national economy has the ability to provide, on the long-term, increasing quantities of goods and services, respective the general trend of increasing in real terms of product and national income, on total and per capita, which does not exclude short-term oscillations by the trend.

Obtained in one or more long periods, economic growth generates a driving mutual relationship between economic processes and population that ensure the sustainable cumulative growth of global national product, human fulfillment and society as a whole. [3]

The interdependence between the macroeconomic results (gross domestic product and national income) and population evolves on the long term, each of these variables being subject to numerous socio-economic factors: objective and subjective, internal and external, direct and indirect, general and specific.

Synthetic expression of economic growth is the growth rate of the gross domestic product and national income, total and per capita, which is based on the volume and efficiency of the production factors used in the national economy: the amount of work and labor productivity, the amount of physical capital and its return, investments, innovations, technologies and scientific research, increasing the labor quality, reallocation of resources mobilized in the low-productivity sectors to high productivity, etc. [4]

The concept of growth places a great emphasis on the quantitative side, directly measuring of the national economy long-term results. This is why economic growth is used combined with the notion of economic development, referring

to the positive process of the quantitative and qualitative changes of the technical structures of social economy, the way of life, thinking and economic behavior of people, in efficient use of inputs and functional mechanisms of the economic system.

In the last three decades, economic theory has been enriched with a new concept of sustainable development, which aims to reflect the process that integrates economic growth, economic development, environmental balance, social justice and democratic ambiance, as indispensable sides of economic and social contemporary progress.

Globalization was manifested after the Second World War, knowing an important development in the last decades of the twentieth century, together with the full internationalization of financial markets.

Globalization limits the power of action of national states in terms of their ability to legislate and develop economic policies, as a result of creating an increasingly strong interdependence network between nation states and national markets. Globalization tends to encompass every sector of society, from economic to cultural, but first, it tries to establish some global features in the fields of politics, law and governance.

Globalization expresses the extension process of social, economic and political activities across national borders, so the events occurred or the decisions made in a certain area of the world tend to have meanings and to influence the lives of those in another corner of the world. The polarization of the world and the emergence of a new political order in the world, by creating the United Nations, have accelerated the emergence of institutions and agencies to ensure the legal and institutional framework for maintaining global peace and security, developing friendly relations among nations and achieving the international cooperation in order to solve international problems of economic, social, intellectual and humanitarian order.

At the end of the Second World War, international capital transactions were strictly controlled by the government in most states. IMF and World Bank were conceived in order to facilitate international trade and investments in an environment characterized by the restriction of private capital flows. Controls on capital movements were gradually removed and off-shore financial markets, stimulated by the oil crisis of 1973, have developed rapidly. International capital

movements were accelerated in the early '80s, financial markets becoming truly global in the early 90s.

Globalization refers to the observable fact that, in recent years a greater part of the global economic activity runs between people and companies from different countries. The essence of globalization is actually a continuous decline of the economic significance of national political boundaries and an unprecedented intensification of economic relations and interdependence to the point where the difference between internal and external transactions is insignificant or disappears. [1]

Contemporary globalization process is the result of technologic and economic changes, as well as political and media developments, being inextricably linked to the modernization of the international community. Also, contemporary globalization is built on an extensive political democratization, which means that is associated with freedom of speech, freedom of religion, free press, the right to associate freely consented. But globalization entails the right of appeal, which in practical terms means its acceptance or rejection.

Globalization, as a process that removes barriers to free trade and integrate national economies, can be a potential welfare for all countries if repairs damage evident to the developing countries. [5]

Deepening of the interdependences from the world economy and transnationalization are processes that characterize the essence of globalization.

International interdependencies are boosted by the expansion of world trade in relation to the expansion of foreign investment capital and international capital flows dematerialization. Impact of world trade expansion on the process of deepening interdependence between states is manifested in two aspects: dependence on the outside of participating countries (external dimension of deepening interdependence) and dependence inside (internal dimension of deepening interdependence). [6]

The external dimension of deepening global interdependence is expressed by building of a complex network of trade-knots which sharpen the dependence on the outside of participating countries. Within the complex system of network-nodes it have been developed four main lines of force through which the world trade increases the interdependence between states: Western European network,

American network, Atlantic network (US, Western Europe) and Pacific network (US- South East Asia).

Emphasizing the internal dimension of interdependence between states consists in the internal penetration of national economies by increasing the share of imports and foreign investment in overall domestic demand for consumption and investment.

Heightened interdependence represents the lower floor of the globalization process, the upper floor being transnationalization of the economic activities. The core process of transnationalization is represented by the international investment flows generated by transnational corporations, which manifests itself as an engine of growth and as integrators agents' of the development process and economic sustainable growth.

#### **4. Sustainable economic development - new global challenge**

A special place in the global problems of world it is occupied by the environmental issues, whose study is important when it comes to environmental protection.

Due to their worsening, the importance of environmental issues grows day by day, reason for which many experts consider it as a priority, ahead of economic and social priorities. Endangering ecological balance messes all scales of values and, in limited cases, can lead to the very destruction of economic and social systems.

In order to solve the today problems facing humanity, we must address sectorial each issue separately but, in the same time, we must make an integrated approach to these issues in obvious connection between them. Unfortunately, it is not understood by all the countris need for participation of all countries to the problem solving global environmental issues (climate change, ozone depreciation, desertification, etc.). Thus, developing countries face serious environmental problems at local or national level, no longer having resources, especially material resources to contribute to the global problems solving.

It has become increasingly widespread belief, both in the developed and in the developing countries, that without taking effective measures to protect the environment will produce a series of changes in the environment, with global and irreversible character, which we will not be able to controll it. In this category

we include greenhouse effect, damage and destruction of the ozone layer, climate change etc. Apart from the overall effects, also are visible regional character effects, such as deforestation, extinction of species of plants and animals, environmental pollution, soil damage etc. To these are added the local urban pollution due to concentration of large masses of the population. Thereby appear particularly severe problems of air pollution, accumulation of municipal waste, hazardous waste disposal, water pollution, groundwater infestation etc. These are, in short, some of the reasons why environmental protection has become so present in our lives.

The current economic development in the forms we know is entirely destructive to the environment. It can be observed both a quantitative worsening pollution and a fundamental change of ecological problems. As prominent phenomena: local pollution are make place to global pollution, the amplification of the greenhouse effect being the most significant example. Ecological- economic interdependences are increasingly strong and reach ever more distant territories. A decision at microeconomic level influences, through the chain of causality, overall economic and environmental conditions, that are often ignored also due to inadequacies of the legal framework.

The main items to be considered at present are: the compliance with the “polluter pays” principle, the correction of the cracks in the ownership of natural resources and, equally important, the introduction and promotion of eco - industries and clean technologies.

We should understand that economic growth model dominated by the principle of maximizing private interest must be based increasingly more on growing interdependence, involving also the taking into account the general interest.

Profound meaning of the globalization idea is the undefined, disorganized and propelled character of the world's problems. Therefore, any event happened in an area of the environment, with negative consequences upon life, every experience of positive resolving of these “bad”, are an organization and cooperation information for overcoming of future similar situations. Hence results the need for a previsional responsible approach to natural environment problems, both at national and planetary scale.

The changes not only due to emissions of carbon dioxide, are manifested by the appearance of weather extremes- simultaneously or alternately namely: torrential

rains with large hail, droughts extended for two, three years, flooding of some areas of the open seas and oceans beaches (for the year 2070 is expected to increase with one meter the level of Planetary Ocean). As well we can observe the changes from the temperate zones, especially in the north, of the two middle seasons - spring and autumn - are with a increasingly high a frequency, especially in the last decade; prolonged heat waves simultaneously with temperature of minus 70°C; increase the risk of disease due to the combination of harmful high temperatures with emissions caused by the greenhouse effect. In many cities around the world, in such situations, air becomes unbreathable and forcing the urban population wearing filter masks - Tokyo, New Mexico, Seoul and some cities in Europe.

Global warming is increasing the average temperature registered atmosphere around the ground and the oceans. Climate models developed by the IPCC (Intergovernmental Panel on Climate Change) estimates that the global climate will warm by 1.1 - 6.4°C during the 21st century. Estimates vary because of the fact that gas emissions, causing the greenhouse effect, evolution can not be predicted. Thus, the authors of the Stern Review consider that up to 20% of global GDP may be lost annually due to the constant rise in CO<sub>2</sub> in the atmosphere. [8]

A study realized by two American economists for Friends of the Earth shows that environmental overheating could cause global economic losses of about 11,000 billion pounds. According to the document, global economic production may be reduced at a rate of 6-8% until 2100, if gas fumes increases will continue. [8]

The cost can be reduced to 12,000 billion dollars if the global temperature increasing it is maintained at 2°C. The amount needed for climate protection measures to achieve reduction of 2° C would be 3,000 billion per year, according to a Tufts University study.

Association of British Insurers says that if no measures are taken and the world warms, then the worldwide costs storms will increase by 15 billion pounds per year. It was also calculated that in a hurricanes season the insurance losses cost would amount to 82 billion pounds, only in the United States. [7]

Urgent need to reduce emissions of greenhouse gases will create huge opportunities for SMEs, due to regulations designed for commercial and industrial use, which will generate a market of 950 million pounds by 2020. Companies who invest in restoring electricity will generate a market worth 800 million pounds. However,

companies producing biofuels for road transport business will reach 500 million pounds, while those focused on domestic energy efficiency, to 400 million pounds.

The extinction of species is another global issue facing today humanity and it is based on various factors: massive forest cutting, fires and damages caused by drought or very low temperatures leading to a continuous decline in forest area and the lack of concern for replanting it is obvious. For example, in 1950, Ethiopia forested area was estimated at 80% of the total, and now it was reduced to 5%.

The increasing of economic exchanges is faster than production, as World Bank analysts observed, in the European Union countries and the Americas. For the next 2-3 years is expected a sharp increase in the EU economy, taken per all the 28 member states. Also, the North American economy will slightly recover, like also Latin America. Also, the South-East Asia countries will continue their economic growth, led hovering China (with Hong Kong and Taiwan), South Korea, Singapore, Malaysia, Indonesia etc. For Africa, the recovery in economic activity is expected, based on the new restructuring plans and regional unification. African countries with the greatest economic success today are Ghana, Uganda, and Nigeria. [8]

2040 will be the year when globalization will be shorted by climate change. A study published by the Center for Strategic and International Studies shows that climate change will force world nations to be concerned about conservation of natural resources, which will become increasingly valuable, and conflicts will increase between population groups in search of safe zones where to live. The study shows that global warming affects not only the environment but also relations between countries so that peace world will be threatened.

## 5. Conclusions

Immediate and permanent problems of mankind in the context of globalization are: supporting the ongoing development of science; the food crisis and underdevelopment; degradation of the natural environment; rapid population growth; energy and raw materials; huge military spending; uptaking the planetary ocean and cosmos for the progress and people's wellbeing; inflation and financial economic and monetary crises; uncontrolled expansion of urbanization.

Globalization these problems is based on the uniqueness of the global economy and is linked by the fact that appear, to some extent, in nearly all countries, contain common technical, socio - economic, political and ecological elements, it is in a permanent and stronger interaction, causing chain propagation effects and requiring concerted efforts to solve them.

Knowing the serious problems facing humanity, the causes that determine them and their direct and propagated effects, in time and space, represents an essential condition to design and implement strategies and measures at national, regional and global levels to allow, in the foreseeable future, the overcoming of production factors current limitations in a living environment compatible with the natural environment. The sooner the convergent action of the world will engage quickly in this direction, the chances of success will be greater.

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# Corporate Governance: Banking Sector and Economic Development

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**Abstract:** Corporate governance is concerned as the most important topic to be discussed by financial entities and economic institutions in developed and transition economic countries during the last decade especially several financial crisis took places around the world especially, the ninetieth was full of crises and scandals that highlighted the low quality of monitoring and related weak accounting system beside the poor experience and transparency. These crises and scandals made many shareholders and citizens to lose their wealth and due to that shareholders and citizens look for corporations applying corporate governance. Besides that, developed economic countries employ governance mechanisms aggressively in order to increase the investment possibilities in their corporations and territories. Overall, corporate governance has its role in economic reformation and economic development.

**Keywords:** Corporate Governance, Economic Development, Banking Sector, High Quality Performance.

**JEL Classification:** M4, M2, M11

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## 1. Introduction

Corporate governance is a comprehensive and important term has been widely discussed in the two decades, and that includes developed and transition economy

countries. That is due to a fact that corporate governance is related to accountancy, management, financial, social and environmental perspectives. Even so, there is no a specific definition of corporate governance, all these definitions concern about rules and regulations organize the relationship among stakeholders; owners, shareholders, managers, citizens....etc, in order to increase the profitability of companies. Although, corporate governance is considered as a set of motivations to increase the profit volume for shareholders in the meanwhile monitoring system over financial and none financial activities is applied. Corporate governance allows shareholders to issue a board of directors to manage and control the activities of their companies. In the light of that, corporate governance assures transparency and accountability beside independence of executives and directors. Applying corporate governance ensures the integrity of the relationship between investors and companies through financial controlling and voting right, even that costs companies, but it brings more benefits over activities and results of these companies. The efficient applying of corporate governance is based on legalizations in the states and others codes related to the investment environment and competition level besides the quality of financial sector, also, the internal rules' procedures and responsibility distribution affect strongly on corporate governance.

In accordance with that, corporate governance is more adapted than legal structure, thus it is defined by Weimer and Pape in 1999; *“Country specific framework of legal, institutional and cultural factors, shaping the patterns of influence that stakeholders exert on managerial decision-making”*, furthermore, Charreaux defined corporate governance in 1997 by *“all the organizational mechanisms which have the effect of bounding the powers and of influencing the decisions of managers, in other words, the mechanisms which ‘govern’ their behavior and define their discretionary space”*, with the factors integration of the global economy compels corporate governance to be both applied harmonize. Besides that, trust and confidence are important function keys of a global market economy. Regaining the missed trust of investors by employing corporate governance is a good way for economic growth after several financial scandals hit the global economy. In the light of that, Andrade and Rossetti in 2004 identified three drivers that are the core stone of the leverage economic growth as the following: trustworthy and stimulant institutions, good macroeconomic fundamentals and competitive availability. In 2003, Babic added corporate governance for the previous three drivers since he ensured the positive impacts of corporate governance on economic growth.

## 2. Banking Governance

Due to the quick development in the capital and financial markets besides the aggressive adapting of information technology and high competition among banks, corporate governance represents an important issue that is protecting shareholders and depositors besides monitoring the performance of the board of directors. That request a need for applying corporate governance in public and private banks. In the light of that, banking governance concerns on two separated groups; first group (internal stakeholders) presented by shareholders, board of directors, executive committee and internal auditors, and the second groups (external stakeholders); depositors, the deposit insurance fund, advertising, classification and valuation investments companies besides states laws concerned with monitoring and legitimacy issues.

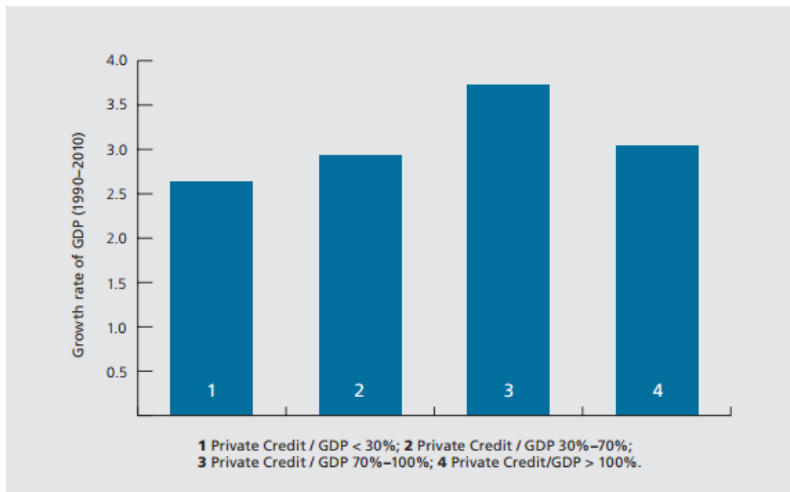
In 1999, the Basel Committee issued a report on the role of corporate governance in the banking sector and later in 2006 issued a new report focused on the independence and qualifications of executives and directors, since they assure banking performance quality and they determine the strategies and make investment decisions. In addition, the board of directors should monitor and manage the bank's strategic objectives and prepare periodical reports on unlawful and unmoral performances, also, the board should define a comprehensive management structure that encourages accountancy and determine the responsibilities of executives. The report ensures highly a need for qualified and independent directors, executives, and auditors since they are the core stones of governance body. The impacts of employing corporate governance in the banking sector are represented throughout increasing the investment opportunities, low investment cost and encouraging the state to keep the stability of the financial market besides fighting corruption. In addition and as a result, transparency and independence are assured in the financial performance of banks. In other hand, banks strengthen corporate governance application since they are an essential fund resource for corporations which look for profitability. Due to the perspective of banks is based on a fact that banks are shareholder corporations apply corporate governance to reduce the risk volume, besides that, strengthening the best practices of corporate governance in banks is led by central banks since they are responsible on monitoring and organizing the banking sector.

### 3. Governance & economic development

The interest of the corporate governance concept is a development and transition economics during the last decades certainly after financial scandals of 1997, 2001, 2002 due to moral corruption besides the lack of financial and quality experience. Therefore, researchers and academicians analyzed to study the impacts of corporate governance over the economy and community in order to achieve sustainability. The importance of corporate governance becomes more with sustainability is discussed as an object in the light of transparency and accountability since corporate governance works to improve the efficiency of using the natural resources and support moral competition among international corporations in accordance with capital mobilization. Due to that, the legitimacy entities pay more attention on corporate governance to assure the rights of stakeholders since the laws and legal rules are the core stone of the relationship between external stakeholders and that affects on the international accounting standards since these laws and rules are the security lock in the light of applying corporate governance.

In the light of that, the luxury of a certain community is based on best practices of corporate governance in the public and private corporations, thus good governance practices affect positively on citizens, communities and societies since these practices grant profitability and sustainability in the long term. In another hand, that will create new job vacancies and encourage the private sector to collaborate closely with the public sector to achieve the objectives for both and for communities. In accordance with that, the board of directors issues a set of mechanisms and managerial structure assuring transparency and accountancy thus directors should consider themselves as presenters of all shareholders and from here the importance of periodical reports issue by executives and boards of directors is highlighted, these reports will be discussed publicly with all shareholders to enable them to make the final investment decision besides that the audit committee has a significant role before making the final decisions of shareholders. In the light of that, auditing committee is responsible for issuing a study case over the performance of executives and directors in order to test the quality of their performance and the quality of financial reports, in addition, transparency and disclosure of financial and nonfinancial reports are important since corporate governance reports are based on them.

During the last two decades, the importance of a good financial system and a good practice of corporate governance beside poverty reduction are established (Levine; 1997 & World Bank 2001, 2007). The latest financial crisis has spotlighted the lack of a stable of the financial system can increase management risk and affect the global economy. Therefore, a positive impact of financial developments on the economic growth is determined in the light of best practices of corporate governance. The financial adapting is measured by a strong cross-country relationship between growth level and GDP per capita, and the relationship between industrial sector, corporations and development level of countries. The following figure illustrates this positive relationship through using data on economic growth for the last twenty years.

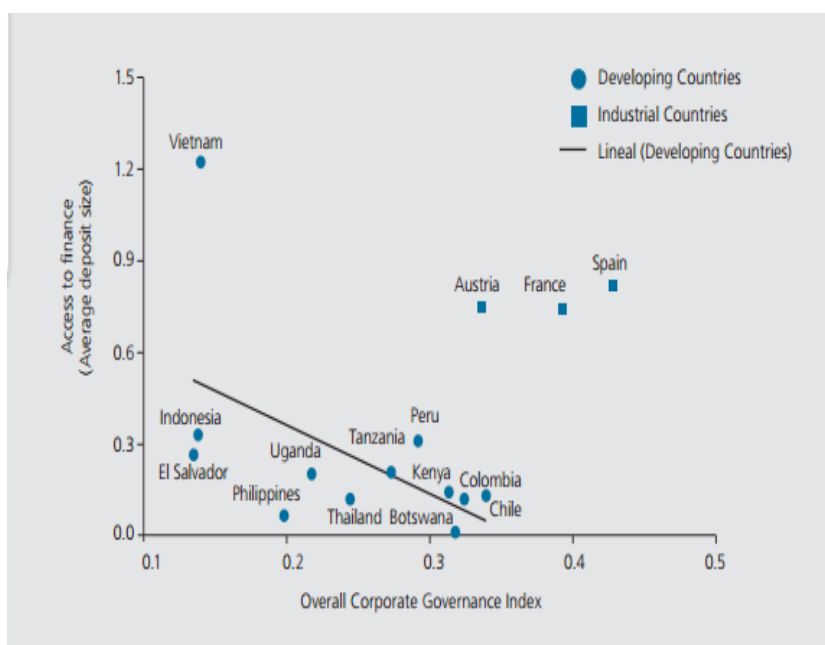


### **Relationship between Country banking system development and GDP growth**

**Source:** Stijn Claessens and Burcin Yurtoglu 2012

In developing economic countries where property rights are better protected, companies have a greater possibilities of financial supply, thus, these companies have a better chance to grow up faster (Rajan & Zingales; 1998). The impacts of better property rights lead to a greater access to a global financing to increase the volume of business at a global level. In addition, that determines the positive relationship between corporate governance and financial supply accessibility

which lead to a faster grow and develop economies at micro and macro levels. Some evidence indicates these possibilities and this positive relationship, at least in developing economic countries (World Savings Banks Institute; 2011)



### **Corporate governance and access to finance, measured as the average deposit size**

**Source:** World Savings Banks Institute; 2011

Overall, the quality impacts of corporate governance practices are not limited only to access to extra financial supply, but it includes the investment capital cost and corporation valuation. In addition, these impacts affect the corporations' behavior during the financial crisis in the light of global economic influences. That means financial crises brought out a conclusion that corporate governance of financial institutions and related entities has gotten sufficient attention in development economy countries after each financial crisis in order to reduce the possibilities of another financial shock. However, poor practices of corporate governance can affect the functions of market capitals of developing economy countries and the volume of capital-cross-world financing, for instance, that can increase financial volatility since information and property rights are poorly protected due to the lack of accountability, transparency, and disclosures, and that increases the cost

of investment capital and increase the debt rate and in accordance of that, the financial market enters in depression and the possibilities of financial supply is decreased maximum at the time when these possibilities are highly wanted.

Moreover, productivity is an import element in developing economy countries which is affected by the mechanisms of corporate governance that mechanisms promote economic growth. This positive relationship between economic growth and corporate governance is theoretically proved since it is difficult to issue an empirical study at the macroeconomic level since the factors can hardly be traced and determined (OECD; 2004). Legalizations that protect property rights differ clearly across developing economic countries since there are differences in legalizations and culture governance codes. The arrangements of corporate governance in emerging markets have been analyzed by Klapper and Love in 2004 and highlighted a fact that matters of corporation-level corporate governance in weak legal environments – countries, exhibit a weak shareholder protection and poor judicial access. Due to that, the matters of legal environment are less to share well-governed corporations. At the macro level, empirical studies suggest that applying corporate governance is important since it affects positively the corporation's performance. In 2000, La Porta, Lopez, Shleifer and Vishny found that strong protection of investor rights is associated with effective employing of corporate governance. Furthermore, the governance impacts on a macro level – corporations' performances, have been discussed by Denis and McConnell in 2003 in them survey about international corporate governance concluding that strong protection of investors' rights permits developments of a strong financial market to serve the economic growth.

#### **4. Conclusion**

Much concern on economic growth has wriggled the discussed since economic development has raised an enormous number of people at international level. In the industrial countries, the economic system has benefited from the wealth of rich people, but it leaves lower, middle and working citizens behind and that increases the gap among citizens in a certain community. Due to the figure below, the wealth of rich people is increased positively taking the benefits of the economic crisis at the global level and the improvement of the regional economy. The situation becomes worse when the main drivers for the wealth become poorer and here it

shows the important role of corporate governance to bring the missed balance. Best practices and employing corporate governance will increase the wealth for all citizens in different percentages to support the regional economy and to expand to the global economy; in the meantime, corporate governance of banking sector supports the improvement in industrial countries and emerged economy countries through allowing different possibilities of global financial supply. That encourages the free-capital-international market to push banks to enter in a competition atmosphere which lets corporations to have access to the benefits of this competition. As a final result, corporate governance of corporations and banks supports and leads to economic growth and can be an important factor to sustain this growth besides other factors such as political issues.



Global income growth 1988-2008

Source: govpol.org

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## The Importance of the Community Mediation. An Example of Practical Course

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**Abstract:** This paper aims to present the importance of community mediation current social life. As a result, authors can organize a mediation course community in which to express their design and their applications about the subject

**Keywords:** community mediator, mediation, community mediation

**JEL Classification:** Y20, Y80, Z13

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Community mediator is the person who connects groups in the community and local authorities. Most times can be a member of these communities. To streamline the organizational effort for better organization of community life, we must coordinate efforts following a common strategy, which should be decided together with those concerned. Discrimination and marginalization are phenomena that can be reduced in a community and even eliminated through civics open, comprehensive and respect for diversity.

Being a good community mediator means to use your power of expression and persuasion to change things for the better. There are specialized organizations and public figures who engaged in community mediation. These organizations or leaders speak on the basis of surveys and reports, often subjective or material reasons.

Your opinion should become important for officials and elect. Public opinion must be respected in a democracy, especially in terms of drafting legislation, public policies and how public money should be spent.

To have an informed opinion you should be aware of legislation concerning discrimination and to the public policies and budget. To solve problems, to correct mistakes and to prevent new errors have to get involved, to participate in public debate. Being an activist against discrimination is not a trade or an honorific title reserved for a few chosen men, but a state of mind.

Parents are concerned about the fate of their children. Community mediators are concerned with the fate of the communities they represent! Whether you have 5 minutes per week or 5 hours a day, using the following tips can effectively become a community mediator:

1. Familiarize yourself with the laws concerning people's lives in the community. The right to not have to follow it, there is a lot of information on all kinds of support legislation: written, audio, internet.
2. Subscribe to newsletter dealing with the organizations or issue that interests you. They will keep abreast of legislative proposals and law enforcement issues in the field that interests you.
3. Keep in touch with elected officials (mayor, local councilors, and parliamentarians). Politicians are people with different experiences from those of the common man and it is likely that they never had to do with experience of discrimination. Therefore it is normal that they do not understand the issues and implications discrimination laws regarding this issue. No need to know all legislation concerning discrimination or be affiliated with an organization's important to talk to your representatives. If he was going to pass a law or a local council decision, they would like to hear your opinion, informed before voting than to receive letters and phone calls of outrage after the decision.

4. Write them develop public policy experts. Like if your phone your elected officials want to hear from you because they want to be reelected. Explain how it affects or will affect a certain law discriminated against a particular group or marginalized. These explanations and examples will be useful to elected officials. In response you can expect a thank you letter or a bill proposed by that representative.
5. Speak only what you know well. Tell your family, friends, even people you meet by chance on issues of discrimination and about viable solutions to these problems. If you happen to encounter a person running for an elected post, not flee from it. Ask her about what he intends to do to fight against discrimination, and then tell him your opinion.
6. Make public your opinion. Call the radio; write letters and e-mails to editors of newspapers. Explain your position, illustrated the importance of combating discrimination against them and present solutions to problems encountered. Place posters and organize meetings in your community to discuss policies to combat various forms of discrimination. As activists against discrimination does not have to fight alone. Instead, you must attract and involved as many as possible in your actions. It is very important to create a diverse team that you fill in activity; otherwise you will be in danger of becoming ineffective.
7. Vote! It seems an elementary, but it is very important that you use your right. You can even do more, helping in the campaign a candidate who supports the fight against discrimination and interests of the group to which you belong. The experience and expertise can help your candidate / nominee to clarify his stance on the issue of discrimination, a problem that affects many people / voters.

The first step to become a community mediator to promote good community problems you represent and diversity of ideas and facts is to get familiar with this issue and to learn to talk about it. Your personal experiences are probably quite motivating for you, but it is hard for others to understand the problem from your point of view. So it is advisable to document about data and statistics objectives and familiarize yourself with the general aspects of the problem and, especially, the correct terms to describe a situation (ex. «Children's rights») or a particular group (e.g. «problem children»). There are still many stereotypes and prejudices on discriminated and marginalized. For this reason it is important to know all the aspects and present them as efficiently as possible, to have a higher impact in the

fight against prejudices and stereotypes society. Dry statistics and concrete cases have the same effect as an argument or a metaphor emotional well-built plastic. Discrimination and marginalization are real phenomena, every day, affecting a very large number of people.

## 1. Mediator activity in public policy

All policies can be applied locally. All laws and public policy implications and local effects and are justified by specific local needs. It is an obvious truth that politicians in central government forget too easily. Laws exist for citizens and must be the result of the combined efforts of public officials, and therefore the mediator Community to promote them or to supervise their proper application. Community mediator and promote legislative initiatives. You just need to understand how the government works and how to be effective in working with officials. There are lots of different ways to reach decision makers in order to communicate our thoughts on mediation Community.

Community mediation course could have the following objectives: training of specialists from local institutions and NGOs on issues of communication and mediation in order to solve common problems of their work easy. The target group would be made up of specialists with higher and middle of municipalities, prefectures, municipal councils or NGOs. The main themes of a possible mediation course community could relate to: the concepts of communication, negotiation, mediation; Community mediation necessity and goals; mediation - essential activity in civil society; functions and dysfunctions of mediation; the mediator's role in the local community; Mediation practical schemes; future activities of community mediation.

## 2. Here schedule such a course:

Course title Community Mediation

Code, Location, period

Course Program

Sunday,	
15.30-16.00	Course opening. Presenting the participants and the agenda
16.00-17.30	Course goals

<b>Monday,</b>	
09.00 - 10.30	Introduction to the course issues. The concepts of communication, negotiation and mediation
10.30 - 11.00	Coffee break
11.00 - 12.30	Principles, theories and applications regarding mediation
12.30 - 14.00	Lunch
14.00 - 15.30	Practical relevance of mediation
15.30 - 16.00	Coffee break
16.00 - 17.30	Specifics of mediation as a form of communication

<b>Tuesday,</b>	
09.00 - 10.30	The need and purposes of community mediation
10.30 - 11.00	Coffee break
11.00 - 12.30	The mediator profession
12.30 - 14.00	Lunch
14.00 - 15.30	Conceptual and practical mediation schemes
15.30 - 16.00	Coffee break
16.00 - 17.30	The typical mediator

<b>Wednesday,</b>	
09.00 - 10.30	Mediator's role in the local community
10.30 - 11.00	Coffee break
11.00 - 12.30	Mediator's relation with the institutional environment
12.30 - 14.00	Lunch
14.00 - 15.30	Mediation - an essential activity in the civil society
15.30 - 16.00	Coffee break
16.00 - 17.30	Mediation in local collectivities

<b>Thursday,</b>	
09.00 - 10.30	Fundraising activities in local communities
10.30 - 11.00	Coffee break
11.00 - 12.30	Mediator's role in fundraising activities
12.30 - 14.00	Lunch
14.00 - 15.30	Conflicts in the local communities
15.30 - 16.00	Coffee break
16.00 - 17.30	Mediator's role in solving the conflicts

<b>Friday,</b>	
09.00 - 10.30	The European mediator. Functions and roles/
10.30 - 11.00	Coffee break
11.00 - 12.30	Functions and dysfunctions of mediation at local level
12.30 - 14.00	Lunch
14.00 - 15.30	Internship for the European mediator qualification
15.30 - 16.00	Coffee break
16.00 - 17.30	The future of community mediation activities

<b>Saturday,</b>	
09.00-10.30	Test for the evaluation of the knowledge acquired in the course
10.30-11.00	Coffee break
11.00-12.30	Discussing the test results
12.30-13.00	Presenting the course evaluation sheet
13.00-14.30	Conclusions, handing out the certificates and closing the course

## LECTURERS:

Name and surname	The institution where they work

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## Migration and (Macro) Economic Risks – Romania's Case

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**Abstract:** Migration is one of the predominant phenomena in debating core issues of politics, economy and society at the beginning of the 21<sup>st</sup> century. In order to understand the complexity of this phenomenon, it is necessary to investigate its main determinants that maintained from historical perspective some of the characteristics from the beginning of the 20<sup>th</sup> century; however, at increased complexity, in the context of constant changes of geopolitical and economic regional configurations. The European enlargement towards the central and eastern part of the continent brought about also changes regarding increased demographic and economic risks in the absence of global migration governance, but also due to the frailty of national institutions in the field of migration and labor market.

The paper intends to briefly enumerate main (macro)economic and demographic risks for Romania by underpinning the contribution of institutional factors to improving the management of this phenomenon at national level.

**Keywords:** migration, demographic risk, labor market, determinant push and pull factors

**JEL Classification:** J10, J11, J61, N34, N44, O49, P29, P39

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### Introduction

In the period preceding the Great Recession and also in the present incipient, uncertain and unstable post-crisis period on multiple levels, one of the most

influential phenomena as political, economic and social effects is migration. Firstly, because of political reasons – as solution for the geopolitical crisis in the Middle East – and of economic reasons it underwent a permanent increase, the outcomes of which have severe economic and social impact.

The Great Recession had multiple consequences almost impossible to anticipate before its outbreak which are all more or less correlated with migration and with the associated phenomenon of mobility. Some examples in this respect are: the increased trends and tendencies of reversing the globalization processes; the more often mentioned and stated intentions regarding the renegotiation of various bi- or multilateral trade agreements, treaties and associations, such as NAFTA, CAFTA etc., including here regional conventions and treaties like the one of the European Union; it might even be considered that one of the current subtexts of the proposals about a Europe with various speeds is also migration, with the actual example of the recent Brexit (2016) which reduced to its essentials the dispute about migration, about increasing higher waves of immigrants in the country and about the advantages/disadvantages of being included into an enlarged political and economic supra-structure which brings with it multiple conditionalities, including with respect to mobilities and freedom of movement; the diversification of the types of inequality not only between migrants and the population of the host-country, but also between migrants depending on their region/country of origin; the increased polarization of jobs by pushing the middle-skilled levels towards the low-skilled level, and the low-skilled level lower still and into even more difficult situations and instances which are close, if not clearly below the poverty threshold.

Migration is again one of the most debated phenomena – under various forms and approaches – as it is placed at the core of concerns for political and economic decisional factors, because during the current period, between migration under its various forms and the economic development degree an increasingly more severe vicious circle takes shape both for origin countries and countries of destination. One way of explaining and ‘disrupting’ the vicious circle and creating a ‘virtuous’ one, is acknowledging the crucial role that institutions play or should play in the current period of critical political, economic and social redesign and rearrangement both for migration and for the economic outcomes. Thus, migration reaffirms its crucial role played in the evolution of contemporary institutions, economies and societies, because similarities between the migration

options by the end of the 19<sup>th</sup> century and beginning of the 20<sup>th</sup> century with the ones by the end of the 20<sup>th</sup> and beginning of the 21<sup>st</sup> century are to be found much more than differences, especially in relation to motivations, aspirations and objective determinants. The main coordinates are still the higher propensity to migrate of the youths, associated to the technological and industrial progresses corresponding just the same to each of these historical periods, and just like then, now even more complex network generate specific effects (Bertocchi, G. 2008), a fact that contributes (even if temporary) to increasing immigration to a certain region, and more specifically to a certain country from the region (see the immigrant flows not only from conflict regions, but also from the poorest regions of the Middle East and Asia, and even Africa to Germany).

In this context, economic refugees are those faced with most problems, as there are various sets of expectations that risk remaining unfulfilled – frequently their situation being just a change in the poverty parameters – from poverty in the country of origin to the ‘managed’ poverty in the country of destination, however this situation being perceived as satisfying and ensuring several chances for surviving.

One of the less debated and researched aspects at national and international level refers to the role played by institutions, by political and policy rules to which should be associated more specific the role of economic and/or social institutions and institutional arrangements which are both representative and determinant for migration, due to the direct or indirect impact on the migration phenomenon. The obvious vocation of the institutions to be the general framework of any ‘trade-off’ requires, in this context, a specific correlation between institutional factors determining the push and pull factors of migration.

An essential role and more attention should be given to institutions on the national and/or international labor market, including social institutions which, by the way they are built, based on their attractiveness or non-attractiveness determine the decisions included in the migration process both in the country of origin, and in the country of destination.

Migration is one of the phenomena with considerable demographic and economic impact especially from the viewpoint of the human capital, of the labor market and of the society as a whole. This impact involves, thus, the requirement of analyzing institutional arrangements for the above mentioned components not

only for understanding and managing the phenomenon as such, but also for approaching some policies and measures that would provide the (still inexistent) perspective of a unitary governance of the phenomenon at world level (Betts, A., 2011). We consider that the absence of some common instruments and tools for the governance of the phenomenon is one of the essential reasons leading – in particular lately – to various displays of true global migration ‘crises’. In its turn, this lack of common governance is determined by the various national institutional arrangements, which are reflected in the agreements by bi- and multilateral conventions and treaties concluded for better managing the phenomenon between states. Obviously, ensuring a universal governance framework for migration is a utopia at present, but delineating some new specific institutions, corresponding to the current stage of globalization, but also to the fluid and changing geopolitical contexts might be a first step in this respect.

The present migration crisis evolves between two opposite and contradictory poles – from the phenomena of demographic ageing, in particular among the member-states of EU-27(28) and which have as last solution for replacing the cohorts exiting the labor market attracting immigrants from other regions of the world, to the increasing phenomena of contesting this need as result of yet another two complex developments that are still not completed and maintain their unpredictability on short- and medium-term, respectively: the uncertain post-crisis period and the economic shift due to technological progress. The common denominator is found in the labor market and in the way in which migration is perceived according to the effects generated on this market both for origin and host countries.

One of the regions facing acutely nowadays this issue is the western part European Union. The recent immigration wave from Middle East of sizes considered almost unsustainable – beyond the statement “Wir schaffen das!”, that is “We can do it”, made by the German Chancellor Angela Merkel – contributed to highlighting a cascading institutional ‘void’ in an apparently ordered line of European bi- and multilateral treaties between the member-states. From the debates about the refugee quotas (a specific category of migrants which should have its own regime of institutions and governance) to the possibility of national states to support and integrate immigrants, all issues came again to surface, especially for the New-Member States of the European Union that – after World War 2, and under the Soviet umbrella for more than 45 years – lacked the experience of immigrants

from all categories and instances of life in their countries. Essential issues were brought to the forefront of debates related to migration, but also the economic performance, labor market and also social and cultural issues.

The paradox is increased if we refer to the period foregoing the crisis when Europe aimed to increase the attractiveness of the region for working, studying, researching and innovating at world level, as this general objective of the Lisbon Agenda 2000 for increasing mobility had as aim not only attracting migrants for work, but also for study and research, and the implicit increased opportunities for valorizing competences, skills by continuing studying, or even at superior levels thus improving individual perspectives of better career and social status.

It should be mentioned that the accession of Central and Eastern Europe occurred on this optimistic background of economic growth in which, though unemployment continued to be among the first issues of concerns of European policies, the perspectives of generating increasingly more jobs continued to exist along with expectations of increased labor force demand. However, despite this optimistic outlook there were several concerns expressed at the level of the political decision factors about the effects that migration from the new access countries would have on the EU-15 labor markets.

The solutions came based on the option of limiting (temporary) the access on the western European labor markets of the migrants from Central and Eastern Europe based on bi- or multilateral agreements. Thus, in the period of massive enlargement towards Central and Eastern Europe, including towards the south-eastern part, only 11 of the then member-states granted a chance to migrants that were assumed to head to the more advanced western member-states, the others opting to conclude transitory agreements and conventions restricting the access on the labor markets for migrants from the New Member-States of EU.

## **1. Migration from Romania. General presentation**

The migration phenomenon in the case of Romania after the year 1945 and up to 2015 might be divided into several (wide) distinct periods: the period 1945-1990; 1990-2007 and 2007-2015. However, the amendment must be made that for the period 1990-2015 some experts suggest the division of this period into three stages: 1990-1995, 1996-2001 and 2001 up to date (Danacica, D.

2010). These stages, with particular emphasis on the period 1990-2015 should be much more detailed, in our opinion, into several phases that would take into account national developments in a more specific manner because each of these stages has distinct features and characteristics, influenced also by the political regime, next to the economic one. The data for the years sixties up to the end of the eighties are rather limited but according to the UNHCR (UN Refugee Agency) statistics the number of Romanian emigrants – who in the respective period benefitted from the statutes of refugees and applicants for political asylum increased from 2.864 in 1980 to 14.864 in 1989 (UNHCR, 2001). In the respective period, the general practice of the western countries was to give assistance to these categories of emigrants that managed to cross over the 'Iron Curtain'. Additionally, legal emigration was represented by Romanian citizens of German ethnicity that migrated both legally and illegally, by Jews and, as of 1987 even by Hungarians (who had especially irregular forms of migrating to the neighboring Hungary) (Anghel, R.G., and Horvath, I. 2009)<sup>1</sup>. The general conclusion is that, in order to avoid complete discredit, the regime chose to mask the number of emigrants, the records being in our opinion still imprecise and unreliable, while the motivations of the regime are found in an equal number of elements that contributed to creating an institutional void in managing national migration and its correlative immigration at the beginning of the nineties. The only 'official' form of migration in the respective period was a carefully managed migration for labor, based on contracts concluded between the Romanian state and countries from the Middle East and the Gulf by which the state ensured and cashed hard currency incomes as contributions to the state budget. In this framework family reunion was strictly forbidden, and the personnel returned in the country after the conclusion of the determined period of the work contract. The state cashed hard currency in the respective period also from the emigration of the members of the German community from Romania (Transylvania Saxons and Swabs) – a practice initiated by the end of the sixties and until the end of the eighties. Otherwise, this was also the period in which, next to the migration of the Jews, one of the most significant losses of human capital of the communist period occurred and it still resonates to the present. For instance, we mention that the weight of German migration was felt already in the year 1977 when the

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1 For more details see, *Sociologia Migratiei. Teorii si studii de caz romanesti*. [Sociology of Migration. Romanian Theories and Case-Studies].

ethnic German community already represented only 1.6% in total population and, on the whole, for the period 1975-1989 had a weight of 44% from total Romanian migrants (The Statistical Yearbooks of the Socialist Republic of Romania, 1975 and 1989).

After 1990 migration began to change gradually motivations: if in the first period up to the years 2000 it might be regarded from the viewpoint of the two previously mentioned major stages (1990-1995 and 1996-2001) and as expression of reflex-type motivations such as lack of confidence in the democratic path, combined with the drastic diminishment of employment opportunities due to the processes of liberalization and privatization that left the country in a state of deep crisis, and consumed by the absence of real privatization processes that were initiated only in the years 2000, and including here motivations such as family reunion and/or the swifter achievement of the 'western capitalist dream', thereafter migration underwent a change of motivations: now, it was not only about family reunion, and work, but also about better educational, occupational and wage gains. The intensity of the phenomenon varied for the entire period. Thus, if in 1990 were recorded a total number of 96929 thousand migrants, their numbers decreased to 21526 thousands in 1996 and to 9921 thousands in 2001. A considerable leap followed, as their numbers increased in the year immediately after accessing the European Union to 302796 individuals and in 2010 – the year when the crisis reached its peak after accession – to 197985 persons though, all in all, it might be considered that a diminishment of this trend occurred. However, for this last period is found that in the conditions of the accelerated and relatively chaotic dynamics of migration at the level of the entire European Union, the Romanian migration was of 1.642.488 individuals, which allows for an estimate of the Romanian migration as yearly average to about 205.311 individuals in the period from 2008 and 2015<sup>2</sup>.

In brief, the period 2007-2015, meant the migration predominantly of the most important segment represented by the young, active, working age population with high-skills, a fact that from demographic perspective contributed to accumulating following types of risks: a more marked and considerable demographic ageing of the population, as the chances for improving the natural increase of the country

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2 The data were compiled according to the National Institute of Statistics of Romania and Eurostat data, 2008-2015.

diminished, because the majority concluded marriages and had children in other countries and changed frequently temporary labor migration into definitive migration. All in all, as general trend, if we analyze the Romanian migration on age groups and gender we find that most migrants pertain to the age groups 25 to 29 years of age and 30 to 34 years of age<sup>3</sup>.

Thus, also as a confirmation of the United Nations' estimates, Romania entered into the top 20 source-countries for emigrants, with over 3.4 million citizens outside the national borders, and if we resume to the intra-community level, Romania is on the 4<sup>th</sup> position, after Great Britain (4.9 million), Poland (4.4 million) and Germany (4.0 million). However, if we refer to a more extended period of time, respectively from 2000 to 2015, on average is found that Romania had a yearly migration increase of 7.3%, so that our country is ranked on the second position, after Syria (13.1%) and followed by Poland (5.1%), and India (4.5%) at international level<sup>4</sup>. In this context, a series of multiplied demographic risks of this massive migration phenomenon at national level might be identified, to which are associated entire series of economic risks with deep implications on the main institutions with direct, indirect or induce impact on migration and the national economy.

From the demographic perspective, emigration represents a loss with direct implications on the population's demographic ageing, the more so as for Romania is found also the existence of marked feminization of emigration, especially to Spain and Italy. Thus, if we take into account only the last years for which we have available data, respectively 2014 we register the emigration of 104887 women, respectively by 25171 more than males. These losses will impact the entire value chain with effects on the educational systems, and on the labor market, including here some determinant factors for the national competitiveness at European and international level.

Therefore, a more careful analysis is required regarding the determinant institutional factors and the policies in the field, at national level in order to formulate optimum policies and strategies in the context in which Romania will turn on medium- and long-term also into a country of immigration.

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3 Bălan, M. (2015): "Correlations between migration and employment among young people" in Management, Economic Engineering in Agriculture and Rural Development, Vol. 15, Issue 3, 2015

4 <http://cursdeguvernare.ro/romania-a-intrat-in-top-20-al-statelor-cu-cele-mai-mari-diaspore-potrivit-raportului-onu-pe-migratie.html>

## 2. Institutional Push-and-Pull Factors of Romanian Migration

The post-crisis period contributed to intensified debates about migration in the context of increasing differing opinions in several EU-27(28) member-states about immigrant quotas, but also because of the differences between ‘acceptable immigration’ from countries regarded historically as immigrant sources for the countries of destination (see for particularities the Brexit case) and the one regarded as ‘inacceptable’ from countries that became recently sources of immigration. In this context, the most significant paradox is the perception about migration at European Union level. If, regarding refugees from Middle East and other regions in difficulty of the world, there was a certain tolerance that tends to turn into intolerance, with respect to intra-community migration, assimilated to the concept of European mobility for work, study, and research, etc. a series of institutional factors emerge that represent as many arguments pro and against migration.

In Romania’s case is found that the migration propensity at national level was stimulated by the absence of clear criteria regarding some of the institutions on the labor market – unemployment emerged as institution only after 1989, as up to the respective it was not recorded as such, but masked under various forms of voluntary activities in fields not necessarily related to the skills of the labor force – but also because of the lacking vision about wages, minimum guaranteed incomes, and policies for the labor force with respect to activating measures, or agencies for work intermediation, etc. Moreover, the absence of some clear active labor market policies that would provide incentives for both employers and employees for involvement in vocational-professional improvement, training, and re-skilling, next to activities of redirecting the complementary systems of education and vocational training contributed to increased migration of the young generation aiming to achieve personal and social goals based on a clear and transparent future economic and social status perspective.

Also, the stability of (political, economic and social) institutions that ensures better predictability of the educational and professional path in Old Member-States contributed to increased migration (either temporary or definitive, including circulatory migration) of the Romanian migrant stock within the EU-28(27).

In this respect, at national level would be necessary an in-depth analysis from the institutional viewpoint of the root-causes triggering the explosive migration, including the design of some formal multilateral institutional frameworks that would provide for answers to questions related to the implications of both low-skilled and high-skilled workforce.

Thus, policies in the field could better mitigate the push-type factors such as income/wage differentials, working conditions, training and promotion, including social ones related to living standard on one hand, and on the other hand, they could assist in elaborating a clear, transparent and efficient system for acknowledging competences and ensuring professional development from the perspective of the pull-type factors both for managing national migration, and also for the future as Romania prepares for its inevitable change into a country of immigration.

### **3. Conclusions**

Romania's migration pattern maintained a constant in time from 1947 up to date: it meant family reunion, increasing opportunities for developing successful careers, increasing chances for quality education and life. Still, this pattern underwent significant variations, and even certain 'refining' of options especially in the post-accession and post-crisis period.

The (in)existence of some institutions with direct impact on migration and which caused also the lacking experience in managing the phenomenon led to emergence of some significant issues for the Romanian area. Beyond the European impact, the most severe migration impact is felt at country level.

Remittances cannot compensate entirely for lacking labor force and economic risks take shape – including environmental ones – agricultural lands, abandoned land plots, together with intense deforestation might have effects on the quality of life in certain development regions, including arriving to the unwanted threshold of desertification of some areas in the southern and northern regions of the country.

In this framework we consider as necessary opening up new areas of research from the viewpoint of correlations that emerge between labor geography and migration geography, between the main economic institutions and institutional

factors that are nodal and convergence points between the two in the context of wide reconfigurations of the global and European north and south under the pressure of economic transition and of increasingly intense migration from conflict-ridden and less developed regions of the world. It is obvious that the various ways in which migrants related to the workplace in the country of destination have impact and change perceptions not only in this respect for both migrants and the population in the host country, but also the requirements for the various institutional configurations on the labor market that determine, finally, the manner in which labor policies mitigate the challenges resulting from jobs' polarization, the increasing wedge between minimum and maximum incomes, the extent to which the negotiation power is higher or lower regarding labor contracts, etc. Moreover, institutional reconfiguring of economic nature is reflected directly in substantial changes with respect to other economic, society and cultural spaces (Buckley, M. et al 2017).

Romania is still in a period of frailty from the viewpoint of institutions designed for managing the migration phenomenon and, labor market and labor force. The massive migration, leaving aside remittances, does not represent a solution in the absence of clear initiatives that would meet the economic imperatives of resuming economic growth after the crisis. To this end, it is necessary, first of all, to manage more clearly and according to main demographic criteria (age, gender) and economic ones (education, employment, etc.) the migrant categories from Romania, as well as to better investigate policies and measures for discouraging emigration and encouraging individuals to remain in the country and even return migration to the country of origin.

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8. \*\*\* *International Migration: The human face of globalization*, OECD, 2009, [www.oecd.org](http://www.oecd.org);
9. \*\*\* *World Migration Report, 2015, Migrants and Cities: New Partnerships to Manage Mobility*, International Organization for Migration, [www.iom.int](http://www.iom.int)

## **States of Sub-Saharan Africa in the Age of Globalization: the Possibility of the Breakthrough**

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**Abstracts:** The paper devotes to the problem of the determination of the place of States of Sub-Saharan Africa in the Global World. The author comes to a conclusion that during the postcolonial history of Africa the governments of African States have undertaken a number of attempts in order to ensure the sustainable growth of their countries. But all such attempts finished by the strengthening of the dependence of African countries from the well developed nations which pursued their strategic interests on the Continent. That's why it becomes evident that it is necessary to change something in the relationship between African countries and their Western partners. The author argues that despite all efforts undertaken by African governments the idea of the establishment of the new system of the relationship between the Global North and the Global South has failed. So nowadays the only chance to reduce the dependence of African states from Western countries is to intensify the intra-Global south cooperation. Thus the author evaluates both the significance of such unions and their ability to ensure the sustainable economic growth of the Continent.

**Keywords:** Sub-Saharan Africa, Globalization, Dependence, South-South cooperation

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## Introduction

Nowadays in the age of globalization when a number of different globalized processes cause radical transformations not only in the economy and social life but also in the consciousness of the human being which changes the structure of its personality one should think about whether States of Sub-Saharan Africa would be able to find their own self-reliant place in the Global World or they remain the world periphery dependent from the financial and technological aid coming from the West.

The Globalization as a process has both positive and negative features. From the one side there is taking place the process of integration of the market of goods and services, finances which causes the free floating between countries and regions. But critics of modern globalized processes suppose that the globalization would make the world space a homogenous one which may cause the situation where the vast majority of countries would lose their cultural identity and the entire World would be arranged according to the Western pattern of the development.

We can conclude that nowadays in Africa they very often substitute the word “modernization” by the word “westernization”: “westernization is modernization” [Adamu, 2007]. And today Western countries and Western financial institutions such as World Bank and International Monetary Fund have so strong positions in the region that give them an opportunity to dictate main features of economic reforms in Africa which take a character of the full liberalization of almost all main sectors of the economy of African countries.

Let’s take for example the African ICT-sector which is under construction. Initially, African countries stated for the policy that all national telecommunication companies should remain the property of the State. But very soon when they’ve began to think about the modernization of their technological facilities they were forced to declare the privatization of those companies in order to attract investments required for the upgrade of their telecommunication industry.

Thus French Telecommunication Corporation *France Telecom* has become a major shareholder of the Kenyan national telecommunication company *Telecom Kenya*. The same situation has happened in Senegal where the French company *France Cables Radio* which is also a branch of the *France Telecom* has become a major shareholder of the former national corporation *Sonatel*.

So it is the financial and technological dependence from well-developed Western nations which can cause the fact that all national strategic plans of the national development elaborated by African countries are mostly related to the necessity of the creation of favorable conditions for the activity of foreign (especially non-African) private investors in the region.

In current circumstances, it is very difficult to say whether States of Sub-Saharan Africa would be able to find their own place in the Global world. During the postcolonial history of Africa, the governments of African States have undertaken a number of attempts in order to ensure the sustainable growth of their countries and to reach the level of the development of their more developed Western partners. But all such attempts finished by the strengthening of the dependence of African countries from the well developed nations which pursued their strategic interests on the Continent. That's why it becomes evident that it is necessary to change something in the relationship between African countries and their Western partners and to think about how to increase South-South cooperation.

### **South-South Cooperation: the Dream or the Reality?**

The idea of the South-South cooperation is not a new one. We'd like to remind that even the first generation of African leaders, inspired by the success of the European integration, stated for the creation of "regional entities capable of promoting regional cooperation and integration" [Schraeder, 2013]. Finally, those ideas were transformed into the special document which had been elaborated by the Organization of African Unity (OAU) and has been published in the year 1981. This document was entitled "Lagos Plan of Action for the Economic Development of Africa, 1980-2000" and "proposed the establishment of an African Economic Community that would be based on an African Common Market. The guiding logic of the Lagos Plan of Action is that the creation of intergovernmental economic organizations in each of Africa's five major regions – North, East, West, southern, and central Africa – is the best means for ensuring the ultimate creation of a continent-wide African Economic Community" [Schraeder, 2013].

But when analyzing the practical implementations of those initiatives we can say that they won't be realized in full. And it was one of the reasons for the

crisis of the Organization of African Union (OAU) which mostly resembled a “talking shop” but not an effective integration unit which was able to ensure a real (not only on the paper) unity of African countries. Finally, in their attempts to reconsider the intra-African relations in the year 2002, the OAU was replaced by the African Union.

At the same time, another initiative has been launched by African countries - Programme of the New Partnership for Africa's Development (NEPAD) which was adopted in the year 2001. To our opinion, the NEPAD represents quite a realistic point of view on the development goals and real opportunities of African countries. For example, they recognize that they can do nothing without foreign aid and foreign investments. But at the same time, African countries put frameworks on the activity of western investors. And it is the NEPAD which “aims to bring African states and external partners together to improve both the continent's economic and political performance. Attempting to manage their own development strategies, the NEPAD states have pledged to work towards ‘good governance’, attempting to attract development aid and foreign investments as a result” [Thomson, 2010].

Thus the NEPAD represented both the new strategy of the further development of the continent and the new platform which should form the backbone of the relationship between African countries and their more developed Western partners. Finally, the NEPAD should become a “working instrument of the African Union” [NEPAD and the future of Economic Policy in Africa, 2008].

“The goals of NEPAD were stated as the promotion of accelerated growth and sustainable development, poverty eradication and ending Africa's marginalization in the context of globalization. The sectorial priorities are defined as bridging the infrastructure gap, human resource development, agriculture, the environment, culture, and science and technology platforms. The vision of resource mobilization covers capital flow and market access” [Adesina, 2006].

The programme NEPAD differs from the vast majority of similar documents by the point that African countries must play the key role in the solution of all problems of the continent. So there are African countries which should elaborate different strategies of the development of the continent, Agendas and Plans of Action and finally take a responsibility for the development of the continent.

On the web-site of the Programme NEPAD, one can find a slogan: “NEPAD: obligations of African leaders based on the common understanding of the problems of the continent” [The New Partnership for Africa’s Development]. But it is evident that it is not enough just to get the common understanding of the problems of the continent. African countries understand that they won’t solve all the problems of the continent without financial aid coming from the West. So they rely that the NEPAD would be supported by their more developed Western partners.

Western countries are ready to help African States in the realization of the goals mentioned in the programme NEPAD but on their conditions which are aimed at the strengthening of Western influence in the region.

That’s why the content of the programme NEPAD represents the simple enumeration of the most important challenges the final overcoming of which strictly depends on the aid of global community.

But the problem is that when elaborating the pattern of all the economic reforms African countries mostly follow the recommendations coming from the international financial institutions such as the International Monetary Fund and the World Bank which impedes the possibility of the independent development and puts a serious obstacle to the establishment of equal characters of mutual relations. So taking to the account African realities there suits very well the following statement: in Africa there is the only worst thing than the presence of foreign investors - the lack of them.

Unfortunately nowadays in Africa there dominates the point of view that “We (Africans) need Europe to rescue from the poverty”. Such statement we have heard from the president of Ghana John Mahama in his speech on the opening ceremony of the Global convention on African studies which was held at the University of Ghana in October 2013. And as soon as one can hear such statements from heads of African countries it is completely impossible to estimate an independent development of States of the region.

So it is evident that despite all efforts undertaken by African governments the idea of the establishment of the new system of the relationship between the Global North and the Global South has failed.

Nevertheless, African countries pretend to play the key role in the determination of the main features of the further social and economic development of the continent

and to find solutions of the most significant problems of the region. Western countries have supported such initiative and agreed to support different agendas, plans of action and strategies elaborated by the African States. But as one can see from the history all those initiatives which are adopted by African countries represent the simple implementation of the recommendations elaborated on the “G8 Summits” and other meetings initiated by the well-developed Western nations. This means that Africa still waits when the world community would find the appropriate solutions of the main problems of the continent. And it is the great mistake.

We’d like to remind that if African countries pretend to play a significant role in modern political processes they should leave the solution of African problems to the Africans themselves. But the question is how to solve all these problems without money and technologies? And there is the only solution to this problem – through the intensification of the intra-Global south cooperation.

There are two sides of this process. First of all speaking on the South-South cooperation we mean the penetration of BRICS on the continent, especially after the accession of South Africa to this alliance. But we can’t say that nowadays BRICS has a kind of a common policy on the Continent. And it is really very difficult to evaluate whether countries which form the BRICS are partners or competitors. China has its own interests on the Continent. So does India, Brazil, and South Africa. The intensification of African stream of their foreign policy from the one side reflects very positively and is able to put the end to the hegemony of Western countries in the region. But from another perspective, it may cause the change of the existing structure of the dependence of African societies but it won’t help to overcome it.

So to our opinion, the sustainable and independent development of the region is possible only in case of the intensification of processes of internal African integration. We’d like to remind that the idea of the achievement of the real unity of African states in order to solve the most significant problems of the continent and to ensure an independent development is not a new one. Initially, it belongs to Kwame Nkrume, the first president of Ghana who dreamed about the unity of African countries. In a great number of his speeches, he stated that “Africa must unit” [Nkrumah, 2007]. This statement has been made in the 1960s but we can’t say that it has lost its topicality today.

Thus it is evident that the solution of almost all problems of the Continent lies in the real Pan-African integration where all African countries join their forces in the face of common challenges. But at the same time, almost all Sub-Saharan African countries have a great number of nationalities with their own values and expectations. And it is very difficult to achieve the real, not only on the paper, unity of such different societies. To our opinion nowadays there is in Africa the only more or less effective regional alliance – the Common Market for Eastern and Southern Africa (COMESA).

Maybe it is too early to speak of foundation of an effective multipurpose Pan-African alliance but it is quite possible for African countries to try to join their forces when solving problems which are common for all of them, for example, the problem of the construction of self-reliant information society.

So we can come to a conclusion that the necessity of the development of information technologies and the elaboration of the joint strategy of the creation of information society would become the common idea which would consolidate the vast majority of African States.

Probably African countries should start from the creation of regional integration forms – on the West under the aegis of Nigeria and Senegal, on the South and the East under the aegis of South Africa, Mauritius, and Botswana, on the North under the aegis of Egypt and Morocco. The above mentioned states have achieved a comparative level of the development of their ICT-industry and they can help their less-developed African partners in the creation of their national information and telecommunication systems which would become a part of Pan-African information and communication infrastructure.

And we can come to a conclusion when analyzing African realities that today they start to use the necessity of the development of the ICT sector as an instrument which could initiate the process of real Pan-African integration.

In Africa, a programme for the development of fibre-optic communications was adopted in 2003. This programme actually consists of two aspects. The first is the development of fibre-optic communications in East and South Africa, and the second is the development of broadband Internet in western, central and northern parts of the continent. They were going to build more than 25,000 miles of fibre-optic lines all over the continent.

The decision of the development of high-speed communicational system in East and South Africa was adopted on July 30<sup>th</sup>, 2004 in Johannesburg (South Africa) at the conference organized by the NEPAD E-African commission.

And finally, on August 29, 2006, in Kigali (Rwanda) there have been signed a special protocol concerning the future mutual cooperation in the sphere of ICT. Initially, this protocol has been signed by Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Rwanda, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.

Below are the main purposes of the protocol [NEPAD E-Africa Commission]:

1. Ensure the development of optic-fiber cable system in Eastern and Southern parts of the Continent;
2. Further the attraction of private investments to the development of information and communication infrastructure of the region;
3. Promote the integration of national information networks of African countries which already exist into the single Pan-African one;
4. Survey legal, political, bureaucratic obstacles on the way of creation of the Pan-African optic-fiber cable system and elaborate suggestions for African governments how to overcome them;
5. Further the creation and usage of the well-developed information and communication infrastructure of the region in order to ensure the trans-border exchange of information;
6. Ensure the creation of the information and telecommunication infrastructure which would be conducive to the strengthening of processes of economic, social and cultural integration of African countries;
7. Promote the access of Internet-providers to international transcontinental optic-fiber cable systems.

The appearance of such agreement indicates that countries of Eastern and Southern regions of Africa try to elaborate the common strategy of the development of information technologies on their territory and to join their forces when creating a common information and communication space of East and

South Africa. So the Kigalian protocol could become a document which would promote the intensification of integration processes in South and East Africa.

And what about Western and Central parts of the continent? We'd like to mark that all attempts of countries of West and Central Africa to elaborate a kind of joint "road map" concerning the development of the ICT sector have failed. In June 2005 in Dakar (Senegal) there took place an international symposium where they have decided to develop optic-fiber cable system in the region. But due to the lack of financial and technological resources this forum didn't elaborate any practical recommendations. To our opinion, it was rather predictable because it was the Central part of the continent where there have been situated the poorest countries of the region. And it was evident that it would be very difficult to include such countries into the global information and communication space.

That's why in order to promote the development of the ICT sector on the continent as a whole; countries of Eastern and Southern Africa have decided to give an opportunity for African countries of Central and Western parts of the continent to join the Protocol. The appropriate resolution has been signed on October 15 of the year 2007 in Johannesburg (South Africa) at the meeting of Ministers of countries which have signed the Protocol. On this meeting, they have underlined that the Kigalian protocol doesn't concern the development of optic-fiber cable system only on the South and East Africa. Any country can join the Protocol. That's why the Kigalian protocol could become, in the future, a document which would initiate the process of real Pan-African integration and the cooperation between all African countries. To our opinion it is rather possible. This document is aimed on the solution of the common problem of every African country. Taking to account the scarcity of the realization of the project of the development of optic-fiber cable system in Africa from one side and the limited financial and technological base of African countries from another, it is evident that the most realistic way of the creation of the well-developed information and communication infrastructure in Africa is to join forces by African countries. That's why the words of the first president of Ghana nowadays are still actuality. It is obvious that only the real unity of African countries can ensure an independent self-reliant development of the Continent under the face of challenges common for all African countries. Otherwise States of Sub-Saharan Africa will remain on the periphery of the world political processes and finally lose their identity.

## Conclusion

To conclude we'd like to point out that unfortunately African countries are still waiting when international community finds an appropriate solution of almost all main challenges of the continent. But even if such solution would be found it would mean the global solution of the global problem but not an African solution of an African problem. And it is a great difference because this approach means the final assignment of African countries to the world periphery and impedes the preservation of the self-reliant pattern of the development in the age of globalization.

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## **Mergers and Their Human Side: Key Factors for an Effective Acquisition and for Surviving One**

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**Abstract:** Mergers and acquisitions have become an increasingly common reality of organizational life. It seems that almost daily one hears of corporations - some willingly, some not - involved in such transformation as part of strategy designed to achieve corporate growth, economies of scale, vertical integration, diversification, and even provision of capital for future leveraged buyouts. From a human resource point of view, merger and acquisitions are corporate events that have the potential to create severe personal trauma and stress which can result in psychological, behavioral, health, performance and survival problems for both the individuals and companies involved.

**Keywords:** merger, acquisition, corporate growth, performance, human resources, economic integration

**Classification JEL:** M14

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## 1. Introduction

The following statement is attributed to Warren Buffet: “Our method is very simple. We just try to buy businesses with good-to-superlative underlying economics run by honest and able people and buy them at sensible prices. That’s all I’m trying to do”.

The aim of this article is precisely to consider the human dimension of mergers and acquisitions and the way these processes impact people. In the substantial body of scientific literature that exists on this topic, authors discuss the rules and “magic” formulas that lead to a successful acquisition, grounding their arguments in empirical evidence.<sup>1</sup> One of the first conclusions that can be drawn from examining this literature is that the authors cite a wide variety of empirical evidence in each case and that this evidence serves to support different, and even contradictory, theses concerning the key aspects and elements of company acquisitions.

Acquisitions affect everyone involved to one degree or another. They are not neutral transactions in any sense: not from a financial, tax, legal, operational or commercial perspective, and especially not in terms of how they impact the people in both companies involved and other stakeholders (i.e. shareholders, suppliers, customers).

For many companies, mergers by acquisition have become a recurrent strategy for dealing with competition, gaining market share, or simply ensuring their survival. Their impact on stock markets is noted within hours, but their consequences for the people who live through them are rarely reflected in the media.

## 2. Mergers and Acquisitions: Why do firms undertake them?

A merger is the creation of a new company that is formed by combining the assets and liabilities of the merged companies. As is defined by the Romanian Explanatory Dictionary merger means, “*to bring together in a single homogeneous*

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<sup>1</sup> A good example is the map offered by Paine and Power in “Merger Strategy: An Examination of Drucker’s Five Rules for Successful Acquisitions,” *Strategic Management Journal* 5 (1984): 99-110.

*unit at least two organizations parties” or „merger is made by absorption of one company by another or by fusion of two or more companies to compile a new one”.*

According to various reports issued by major consultancy firms, over 60% of mergers end up failing in the long term, which results in the companies involved losing ground in terms of their positioning in the market, losing business, and even disappearing in some cases.

The most basic reason for undertaking a merger is to help transform a company's business operations by incorporating new products, services or talent. In other cases, the aim is to expand certain operations in economies undergoing rapid growth and take advantage of the opportunity they present. Mergers may look like an attractive option since achieving similar results by other means would take more time and effort. In many cases, companies also see mergers as a way to increase their market share.

Whether mergers are strategic, financial or operations-related, the reasons that most frequently impel companies to undertake them can be summed up as follows<sup>2</sup>:

- ♦ Pursuit of market leadership: the speed at which certain sectors are evolving leads companies to seek new partnerships in order to acquire customers and avoid being shut out of the market.
- ♦ Geographic diversification: to test the capacity of their business model by gaining access to different sales channels and emerging markets.
- ♦ Financial reasons: to increase cash flow, improve capital structure, or reduce the cost of debt.
- ♦ As a means of increasing capital in order to write down assets and improve the company's solvency ratio by integrating complementary products and services.
- ♦ Pursuit of production-related synergies (i.e. cost reduction, improved income from profits) or financial synergies (i.e. tax benefits, lower cost of capital).
- ♦ Access to new ideas, technologies, and talent.

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<sup>2</sup> N. Zozaya, Las fusiones y adquisiciones como fórmula de crecimiento empresarial (Dirección General de Política de la PYME, 2007).

- ♦ Pursuit of opportunities to increase the welfare and security of shareholders in times of crisis.
- ♦ Personal motivations (i.e. ego, achieving power or a higher salary) or speculation by company leaders.

### 3. Reasons why mergers and acquisitions fail

According to Professor J. R. Pin<sup>3</sup>, “merger mania” is the excessive use of mergers and acquisitions as a means of achieving business growth and expansion. As we indicated in the preceding section, excess cash balances and an interest in pursuing continued growth are some of the reasons that drive companies to acquire other organizations.

But are such deals always profitable? Despite the expectation of resounding success that prevails during the negotiation process, the answer is no. A merger is seen as having failed when in the short term the value of the company has actually decreased rather than increasing. The standard figure given for the loss of business after a merger ranges from 5 to 10%, though in some cases it is even higher.

Why are due diligence investigations and other pre-merger reviews unable to foresee such losses? Mergers and acquisitions entail “hidden” costs or “gray areas.”

According to some experts, including Shippee, these costs arise because the human element - what Shippee<sup>4</sup> calls the “X factor” - is overlooked. The people who make up the organizations involved can play a key role in streamlining the process and mitigating any traumatic effects, helping to tip the scales that measure the success of a merger one way or the other. The right kind of behavior increases the chances of achieving success in the long term. The traumatic effects experienced are usually identified as “merger syndrome.” They include mixed feelings—anxiety, frustration, disappointment and uncertainty—as well as tension between individuals and groups in the organizations undergoing the merger. The emotional impact of the change process leads to a slow trickle of key

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3 J. R. Pin, “El lado humano de las fusiones y adquisiciones: el modelo antropológico frente al culturalista”, FHN-208, IESE Business School, Barcelona, 1990. Available on IESEP (only in Spanish).

4 S. W. Shippee, “The X Factor in Successful Acquisitions: Getting the Human Side Right,” MWorld 13 (2014): 14-16.

people leaving the company, adversely affecting its day-to-day activity. In a climate marked by internal “noise,” lack of motivation, and a sense of unease, people focus on protecting their jobs rather than, for example, taking care of customers. These behaviors result in a loss of business (mainly customers and suppliers) and talent. At the same time, because they are afraid of making mistakes, those responsible for the merger stop taking decisions which, though they entail a degree of risk, are likely to be in the company’s best interest.

People often forget that mergers involve more than just acquiring assets or technology, increasing market share, or incorporating another company’s talent. What makes these processes so complex is the need to integrate two organizational structures and make them work, and to combine different styles, work forces, processes and cultures. This is where the human dimension of the merger becomes so important.

Leaving aside that a merger may fail because the company acquired has not been entirely truthful, a study on mergers and acquisitions carried out by KPMG<sup>5</sup> identifies the main causes why such deals fail, emphasizing that a cultural mismatch between the firms involved can be one of the fundamental reasons. Other causes include lack of defined leadership, poor implementation of the merger plan, resistance to change, lack of employee motivation, poor communication, and loss of key talent.

When a merger is undertaken, the aim is to generate sufficient synergies to present the market with a clear, concise argument as to why the merged entity will be more productive and deliver better results in less time. Synergies of this kind are oriented towards cost savings, and due diligence reviews focus on identifying such synergies. Consequently, people and factors with a more qualitative component— aspects that take longer to evaluate and manage and whose economic impact is less apparent in the short term—are not given enough consideration. Capital markets seem to lack the time and patience needed to take these issues into account.

Human and cultural factors only start to become the focus of attention when the case for the synergies to be obtained from a merger has been made to the market (and this shift of focus does not occur in all cases). Yet these are the factors

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5 KPMG (2011), “Whitepaper on Post Merger People integration,” <https://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/Post%20Merger%20People%20Integration.pdf>.

most likely to cause deals of this kind to fail. Why are these issues generally not addressed in an appropriate and timely manner? Let's see what the technical director of an IT multinational has to say:

"After completing three acquisitions my company was itself acquired. All this happened in three years. The point that generated a lot of conflict was the difference in terms and conditions of employment between the two structures. When we were acquired, the incoming company had a collective agreement with more advantageous terms for employees, including better working hours, more vacation time, higher salaries, and so on. We lived with these differences for months and months, which prolonged the agony because it was a constant reminder that we were the ones who'd been acquired. It made us feel like second-class employees. I think the teams could have been integrated more quickly and effectively if, right from the early stages, they'd merged the works councils of the two companies and established a collective agreement with the same terms for all staff. It seems obvious that this was the right thing to do, but the fact is that they allowed this distinction between employees to go on for a very long time".

Understanding how employees view the new context should not be complicated. However, despite the tools at their disposal, companies tend to:

- ♦ carry out due diligence reviews that do not include sufficient analysis of cultural and organizational factors;
- ♦ pursue complex strategies that slow down processes and hinder their definition and communication; -
- ♦ delegate management of the process mainly to experts from the financial area and specialists in legal and tax matters;
- ♦ lack the information needed to make operational decisions that contribute to shaping the new corporate structure.

#### **4. Can a merger be made more efficient?**

It is difficult to determine the exact proportion of talent that is "lost" after a merger. For one thing, the loss of talent cannot be understood simply in terms of the number of people who voluntarily leave the resulting organization during or after the process. One also needs to consider the talent that has been the "victim of

the synergies” and, most importantly, the unmotivated and disgruntled talent that stays on—that is, people who, though they feel their careers have been derailed and their expectations frustrated, decide for one reason or another not to leave the company. This is a hidden cost and often one that nobody wants to estimate.

A merger is a real test for the human resources department. Its level of involvement and performance will show whether or not it is able to rise to the occasion. The department’s role is to act as an intermediary between the company and employees and forestall the emergence of a “winners and losers” mentality. This can be accomplished by applying objective decision making criteria and proven tools for promoting integration and avoiding arbitrariness. Such criteria help people understand the reasons for the most complex decisions that need to be taken.

Productivity suffers in so far as people are unclear about their future and must, therefore, move out of their comfort zone to learn and put into practice new ways of doing things.

While it is normal for performance to be adversely affected early on, it is important to act expeditiously and take a realistic approach to managing the situation.

**Reality One:** There’s Always a Winner.

While the proponents of a merger argue, communicate and insist that both organizations come out ahead, the reality is usually quite different: there are, in fact, no mergers of equals, only acquisitions. The acquiring company generally imposes its policy, values, culture and rules. However, it is the acquirer that loses the most by taking this kind of approach: there is always a price to be paid for this kind of “ethnic cleansing” in terms of the mark it leaves on those who remain.

**Reality 2:** Pain is inevitable. nothing will be the same.

Redundancy leads to outplacements, reduction of the workforce, and labor force adjustment plans. Sometimes efforts to avoid inflicting pain turn out to be useless and simply delay the realization of cost synergies and improvements to processes.

Although the new company may end up creating jobs in the long term, in the short term there are bound to be dismissals. Change at the personal and organizational level leads to uncertainty and generates a sense of disorientation, a situation that often only improves with the passage of time.

**Reality 3:** Success depends largely on middle managers

Assessing key managers should be a focus of attention for senior management and one of the first items on the agenda for human resources during a merger by acquisition. It is middle managers who manage the change while also running the business.

Their involvement is essential for a merger to be effective. If they are on board, everything will go better.

**Reality 4:** Works councils and unions will be against the process.

Unless something is done to change the situation—such as entering into negotiations with them before the process even starts—works councils and unions will be part of the problem, not part of the solution. Effective negotiation depends on understanding their position on the personal level and at the level of the group they represent. Their critical needs must be recognized and gradually met in exchange for them providing adequate support for the progress of the merger. Finally, if a deadlock is reached, they should be offered a dignified exit.

**Reality 5:** Cultural integration isn't achieved only through friction.

The people involved in managing a merger by acquisition usually assume that once people from the two organizations are working together in the same place cultural integration will happen over time and with a certain degree of "friction." However, it is not just a matter of time: companies must fully engage in the process, and management must take action based on rigorous, straightforward procedures. If the leaders of a merger act with integrity, this reduces uncertainty and pain, leading to an increase in efficiency

**Reality 6:** The best people have opportunities elsewhere.

The best people also tend to take the bull by the horns; they do not wait for events to unfold before negotiating with other companies. If the goal is to keep them in the company, it is important to act quickly.

## 5. Practical guide for surviving a merger process

Firms will continue to undertake mergers and acquisitions as a way to grow, solve internal and external problems, or feed the egos of company leaders. However, multiple factors need to be managed to avoid negative impacts.

Porter<sup>6</sup> and Pfeffer<sup>7</sup> emphasize that multiple external factors influence the advisability of undertaking an acquisition and the probability of success. Rumelt<sup>8</sup> notes that 80% of success is due to actions taken by the acquiring company while 20% of the outcome is explained by the evolution of the sector. Academics and managers are increasingly warning that people (employees and customers) have not been properly taken into account and considered in analyses or subsequent decisions. This situation can be remedied by creating a dedicated team whose role is to thoroughly analyze the cultural issues that need to be addressed before integrating or acquiring a company.

We also recommend that HR departments be given a much greater role from the start of the process. They should be aware of and, where appropriate, involved in decision-making. Decisions should not be taken exclusively by those in charge of business operations, sales or finance because in the long term the outcome of a deal depends on what managers and employees make of it.

## 6. Conclusions

A proactive strategy for dealing with corporate culture and human resource issues is fundamental to the success of mergers and acquisitions. However, these issues are rarely considered until serious difficulties arise. According to Hunt<sup>9</sup>, the personnel function was involved in only one-third of all the mergers and acquisitions he studied: management often fails to acknowledge that culture and human resource issues can actually cause careful proactive planning by the acquiring organization to reduce the emotional fallout can ease the transition and reduce the risk of failure.

Acquisition managers must recognize that the role of people in determining merger and acquisition outcomes is in reality not a soft but a hard issue. Without the commitment of those who produce the goods and services, make decisions and

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6 M. Porter, *Competitive Strategy* (New York: The Free Press, 1980)

7 J. Pfeffer and G. R. Salancik, *The External Control of Organizations: A Resource Dependence Perspective* (New York: Harper and Row, 1980).

8 R. P. Rumelt, "Evaluation of Strategy: Theory and Models," in *Strategic Management: A New View of Business Policy and Planning*, edited by D. Schendel and C. Hofer (Boston: Little Brown & Co, 1979).

9 Hunt, John W. 1987. Hidden extras: How people get overlooked in takeovers. *Personnel Management* 19(July):24-

conceive strategies, mergers and acquisitions will fail to achieve their synergizing potential as a wealth-creating strategy.

This article has highlighted the importance of considering and strategically addressing corporate culture and human resource issues concurrently with financial issues.

It has also illustrated the importance of dealing with these human resources issues before, during, and after an acquisition or merger and hopes to develop an open mind for people living standards as the first choice of any management decision, wherever the world this could be done.

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# Cost Efficiency and Cost-Benefits Relationship Analysis in the Romanian Education System

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**Abstract:** For reaching a certain level of performance, it is not absolutely necessary to have additional amounts of money, but an amount distribution in a more efficient manner between school units, or their reorganization. One of the important ways to reduce the base cost and in the same time to reach a high level of preparation for students is efficiency growth. In other words, the best way to grow student performance in lack of cost growth is to grow the productivity through management methods specific to teaching activities.

**Keywords:** cost, cost efficiency analysis, cost-benefits analysis, overall cost, direct costs, indirect costs, education system

**JEL classification:** I22, I26, M40

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## Introduction

The deffinitory element in the managerial decision making is not the cost value, but the understanding of behavior and cost relevance for some specific decisions, also the cost variation effects on profit and taxing it.

The cost is directly tied to a target that must be reached and it must not be confused to exence that is specific to a cetrain timeframe and requires financial

result determination. The cost area is delimited by productive activities, the distinctiveness to expenses that refer to all entity activities being obvious in this case.

Regarding the cost identification and analysis, a cost classification is necessary, based on several criteria: cost nature, cost relationship to calculation object, cost behavior, relevance degree in decision making, timeframe to which it refers.

Because the cost is a key component in price determination, the financial result, demand and supply, the cost behavior analysis is defining for control processes, planning and decision making. In cost information lack, it is not possible to calculate the rentability threshold, budget control, manager performance appraisal, etc.

## **1. Cost-benefit analysis**

Cost efficiency analysis (CEA) is based on the correlation between an education program costs and key outputs or benefits. Cost-benefit analysis (CBA) makes a step forward compared to cost efficiency analysis, performing comparison between costs and benefits in currency terms. Both methods can be applied at any time (before, after or during an education program implementation) and represent the main instruments of efficiency appraisal.

The CEA method targets the identification and currency quantification of a certain education program costs and it is based on the relationship between specific program costs and program efficiency. A pointer given by this method is the cost efficiency report, defined by the division of the total cost to the units that appraise efficiency, where through the units that appraise efficiency are individualized the quantifiable sizes of the main outputs of the program.

Considering the students poor bachelor degree results in the last years, we will consider as a practical example for applying these methods, the implementation of a program for raising the graduation rate for the bachelor degree exam. In this context, an important output of the program will be the raise of the graduation rate for the bachelor degree exam in comparison with the previous years.

The cost-benefit analysis starts from identifying and quantifying program costs and calculating the net benefits of the program, obtained through calculating the differences between total benefits and total costs.

Both applied methods are of a social-economics nature (and not financial), considering these costs and monetary and non-monetary benefits that can be associated to individuals in society. In the same time, the negative effects of the program are considered to be the costs and they are included in the calculations. Value for society appraisal considers all the costs and benefits associated to all social classes subjects (students, contributors, community, economical entities, superior learning institutions, or other groups or entities affected by the program implementation). Through comparison with the financial approach, we consider this type of approach for the two methods more suitable because it offers a wider and more complex perspective regarding high level education performance which has more components that define it.

Applying the two methods means going through a process that includes several steps that we will look into details further on.

## **2. Analysis framework delimitation**

Analysis framework delimitation must start from presenting the existent situation before the implementation or projecting program. In our situation, bachelor degree exam graduation rate in Bucharest is considered as an average of previous years, respectively 40.79% private high schools and 58.63% public high schools.

In both methods, costs and benefits that have to be considered are the ones that must produce above the level of those costs and benefits that exist at the starting moment of the analysis, their name being incremental or margin benefits or costs.

The raise of graduation rate program for the bachelor degree exam implies offering extra hours in high school for studying domains that the exam includes. The program implementation costs will be created from direct costs for didactic personnel salaries, space utilization costs (heating, electricity, rents, etc.) and didactic materials utilization and computer equipment costs and indirect costs regarding the program implementation personnel leading the team and other indirect administrative costs. The program timeframe is set to be 3 years, and the information that we wish to obtain through the two analysis are correlated to program suitability and the continuation or expansion in several learning units.

The initial state, that precedes the program implementation is characterized by the educational activities that occur in the analyzed high school until the moment it begins.

### 3. Setting the considered costs and benefits

Regardless if we are talking about political education or an educational program, there is a high number of gainers or individuals or group of individuals affected by costs and benefits. Their delimitation must be made in relation to their applicability area of the program, in our case this being Hyperion High School.

### 4. Costs and benefits identification and classification

Cost and benefit identification and classification for the analyzed program was made in relation to several classification criteria presented in table 1.

**Table 1. Cost and benefit classification criteria**

<b>Crt. No.</b>	<b>Classification criteria</b>	<b>Description</b>
1	Real costs and benefits	- Costs and benefits that can be quantified for society - Real benefits reffer to saved or earned summs, population level of education growth, earnings growth and lowered taxes, time economy, living standards growth, etc.
	Transferred costs and benefits	- Costs and benefits that affect resource distribution in society
2	Direct costs and benefits	- Costs and benefits that are directly relationed to the main objectives of the program (personnel costs, program required space costs, equipment and material costs, etc.)
	Indirect costs and benefits	- Costs and benefits that are unintentionally produced as an output for the program implementation

3	Reachable costs and benefits	- Identifiable and quantifiable costs and benefits
	Unreachable costs and benefits	- Costs and benefits that cannot be identified or quantified in monetary terms
4	Financial costs and benefits	- Costs and benefits that can be instantly identified in monetary value
	Social costs and benefits	- Costs and benefits that cannot be quantified in currency but have a value for society

Source: own processing

**Table 2. Costs and benefits by category**

	Costs and benefits:							
Cost or benefit category	real	transferred	direct	indirect	reachable	unreachable	tax	social
Didactic personnel salaries	X		X		X		X	
Location utilization costs	X		X		X			X
IT equipment acquisition	X		X		X		X	
Didactic materials acquisition	X		X		X		X	
Location maintenance	X			X	X		X	
Consumables	X		X		X		X	
Volunteering personnel	X			X	X	X		X
Family opportunity costs	X			X	X			X
Student opportunity costs	X			X	X			X
Program implementation consultancy	X		X		X		X	
Graduation growth			X		X			X
Student self esteem growth				X		X		X
lowering social issues				X	X	X	X	X

Source: own processing

## 5. Costs and benefits projection during the program lifetime

After costs and benefits identification and classification of the program it is necessary to establish a timeframe in which the proposed program has to take place. For the analyzed program, the period is 5 years. Considering the program extent, it is necessary to forecast the impact that it has during the lifetime, and costs and benefits constancy appraisal or indexing them regarding certain indexes.

For the analyzed program, most costs that are identified at the program implementation moment will continue to exist during its ongoing, the raisings mainly being due to inflation.

## 6. Costs monetary quantification

Costs and benefits monetary quantification is necessary in total cost determination of the proposed program. The difficulties of this step stands in unreachable costs monetary quantification.

After the monetary quantification, the program costs must be budgeted by categorizing them as it follows: capital costs, submerged costs, indirect costs, unmounted costs, etc. The program specific cost quantification is presented in table 3 for the 5 year timeframe. For each year, a cost value raise was considered to be generated by inflation.

**Table 3**

**Program monetary costs quantification**

EUR	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	TOTAL
<i>Before project costs</i>						
Consultancy	50000	10000	0	0	0	60000
Computer equipment	5000	0	0	0	0	5000
<i>Capital costs</i>						
Classrooms	0	0	0	0	0	0
Computer equipment	6000	6000	6000	6000	6000	30000
Didactic materials	5000	5150	5304.5	5463.635	5627.544	26545.68

<i>Salary costs</i>						
Didactic personnel	216000	222480	229154.4	236029	243109.9	1146773
<i>Other direct costs</i>						
Maintenance costs	10000	10000	10000	10000	10000	50000
Consumables	6000	6000	6000	6000	6000	30000
Travel costs	4500	4635	4774.05	4917.272	50647.9	23891.11
<i>Administration generated costs</i>						
Administration	3000	3090	3182.7	3278.181	3376.526	15927.41
<b>School total costs</b>	<b>305500</b>	<b>267355</b>	<b>264415.7</b>	<b>271688.1</b>	<b>279178.8</b>	<b>1388138</b>
Student social costs	5000	5150	5304.5	54636.35	56275.44	265456.8
<b>TOTAL COST</b>	<b>35550</b>	<b>31885.5</b>	<b>31746.07</b>	<b>326324.5</b>	<b>335454.2</b>	<b>1653594</b>
Number of participants 50	50					
<b>COST PER STUDENT</b>	<b>711</b>	<b>637.71</b>	<b>634.9213</b>	<b>6526.489</b>	<b>6709.084</b>	<b>33071.89</b>

Source: own processing

## 7. Benefits quantification

Opposite to cost monetary quantification that is realized in the same way for the two used methods, the benefits quantification is realized differentially.

The starting point for the benefits identification must be the objectives which were established before the beginning of the program. In our case, the main benefits are tied to the graduation percentage of students in the bachelor degree exam and the performance improvement reported to past years averages.

The last step is the identification of the benefits reporting to the considered efficiency units, which in the analyzed situation are represented by the number

of students which improve their performance, from the total students enrolled in the program.

Cost efficiency analysis is not about all benefit monetary quantification, being necessary to identify at least one benefit that can be appraised in monetary terms. From this perspective, we consider a cost-benefit analysis more relevant from a financial point of view. When a social point of view program characterization is desired, it is obvious that a cost efficiency analysis shows all the benefits of the program in detail, for example the utility of the introduction necessity. In case of program financing necessity from various sources, cost-benefit analysis has a greater utility, any financing requiring a more relevant budget fundament.

Table 4 presents the efficiency analysis itself of the analyzed program.

**Table 4 Cost efficiency analysis**

EUR	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	Total
Number of students that increase performance	25	30	32	34	38	
School costs	305500	267355	264415.7	271688.1	279178.8	1653594
School costs for program participants that satisfy the graduation criteria or the performance growth	12220	8911.833	8262.989	7990.827	7346.81	1653594
<b>TOTAL COST</b>	<b>355500</b>	<b>318855</b>	<b>317460.7</b>	<b>326324.5</b>	<b>335454.2</b>	<b>1653594</b>
Cost for program participants that satisfy the graduation criteria or the performance growth	14220	10628.5	9920.645	9597.779	8827.742	1653594

Source: own processing

Total program benefits estimation must take into account direct benefits of the program participants and indirect benefits of the society. Also, their projection must be made for a long future timeframe – for example 25 or 30 years, for showing the advantages offered by the analyzed program in detail.

For the student bachelor degree exam graduation growth program, total benefits estimation of the program and their projection in a future time period is not possible due to the lack of data and necessary information.

## **8. Program improvement recommendations**

In case the added value offered by the program implementation is positive, it is obvious that the recommendation is to implement that program. In the cost efficiency analysis, there is no clear rule to decide in the project appraisal, the use of an expert professional judgement being necessary. If two programs are appraised by comparison, that report to the same efficiency units, the program which has the lower costs is desired to be implemented. In this case the question raised is if the associated benefits are at least equivalent if not superior to the rejected program benefits.

## **9. Conclusions**

The performance indexes of the school units that are used in their appraisal do not offer a clear image of their efficiency and do not allow an appraisal for all performance components in education. That is why it is necessary to use specific managerial accountancy methods to find a solution in both economic and social natures.

Regardless to the used method, this implies human judgement that removes the managerial accountancy from an exact science. That is why it is necessary to use an approach that lowers the subjectivity of the individuals engaged in the molding and development of a complex resource allocation model which starts from a clear definition of education suitability, which specifies and appraise monetary resources and study programs offered and those which develop a fair mechanism of resource distribution.

Without a doubt, the fair education cost determination and associated costs represents a tough but necessary process that has to be practiced in every country. The existence of several methods does not make this process easier, the use of one or another being difficult, choosing the most suitable method falling in the decision making team task, regarding financial resources allocation, which must determine the most suitable method regarding the educational system for every nation.

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## Bio-Based Economy Sketch: The Case of Romania

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**Abstract:** In a world shaken by unsustainability conundrums, a bio-based economy (bioeconomy) seems like the solution. This paper introduces two ways to define a sustainable bioeconomy, one advanced by Nicholas Georgescu-Roegen in the 1970s and another implemented by the European Union in recent years. Also, an overview of Romania's potential to develop a bio-based economy is drawn. Its renewable energy profile is presented, followed by a discussion of the bio-based industrial sectors with potential for development.

**Keywords:** bio-based economy, bioeconomy, Romania

**Classification JEL:** Q42, Q56, Q57

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## Introduction

Paul A. Samuelson, the *Father of Modern Economics* (Parker 2002, p. 25) called Romanian-born economist Nicholas Georgescu-Roegen “... a great mind... so far ahead of his time that he fails to get the recognition he deserves” (1999, p.xiii). Decades before the global concern about environmental destruction, Georgescu-Roegen proposed a new paradigm, ‘the entropy economics’, that acknowledges the economic process is an “irreversible process that admits no permanently renewable steady state for maintainable economic consumption” (Samuelson, 1999 p. xiv). Georgescu-Roegen (1975) advanced Lotka’s (1956) idea that the socio-economy should be looked at as an expanded form of the human metabolism and introduced the concepts of ‘exosomatic’ metabolism (outside the human body) versus ‘endosomatic’ metabolism (inside the human body). Similar to the healthy functioning of a body when all of its organs are healthy, from a socioeconomic metabolic point of view, local sustainability is a prerequisite for achieving global sustainability. Nevertheless, in our interconnected world, local sustainability might not be achieved without a global exchange of knowledge.

Romania is a country endowed with a large variety of natural resources (forests, natural gas, fertile agricultural lands—7.5% of utilized agricultural area in EU—brown coal and lignite, crude oil, salt, mineral, silver, gold and hydrological networks). Georgescu-Roegen confesses in his memories (1976, p. xi) that what made him “look at the economic process from an unorthodox viewpoint is the particular nature of the economy of my native country, Romania... a struggling, overpopulated, peasant-dominated culture and economy.” As a result, in the 1970s he advanced the idea of bioeconomics “as a discipline based on parallel knowledge and application of social, economic and biophysical principles and emphasized the importance of an understanding of the reciprocal influence of this principles” (Giampietro and Pastore 1999, p. 287) and warned “The term is intended to make us bear in mind continuously the biological origin of the economic process and thus spotlight the problem of mankind’s existence with a limited store of accessible resources, unevenly located and unequally appropriated” (Georgescu-Roegen 1977, p. 361).

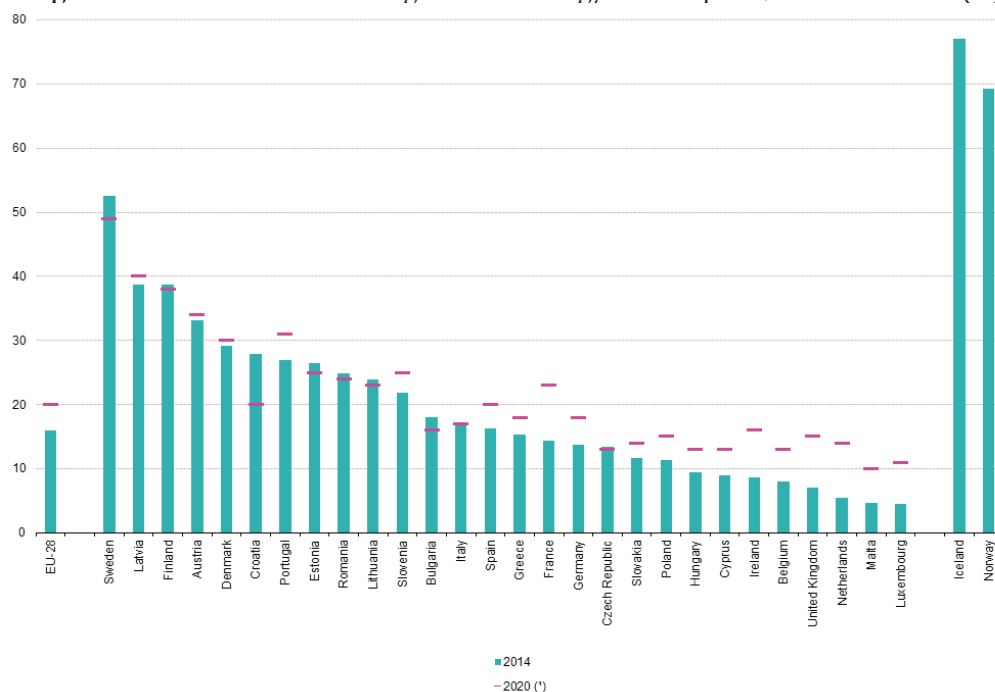
As a solution to modern world unsustainability conundrums, Georgescu proposed a minimal bioeconomic program required to build a sustainable world:

“the complete prohibition of weapons production, in order to release productive forces for more constructive purposes; immediate aid to underdeveloped nations; gradual decrease in population to a level that could be maintained only by organic agriculture; avoidance, and strict regulation if necessary, of wasteful energy use; abandon our attachment to ‘extravagant gadgetry’; ‘get rid of fashion’; make goods more durable and repairable; and cure ourselves of workaholic habits by rebalancing the time spent on work and leisure, a shift that will become incumbent as the effects of the other changes make themselves felt.” (Gowdy and Mesner 1998, p. 151).

In the past ten years, the OECD and the European Union made concerted efforts to politically implement a bioeconomy concept that is quite different from Georgescu-Roegen’s and those differences might prove to be, in the near future, dangerous challenges. In their OECD 2009 report, Arundel and Sawaya (p.19) show how “The application of biotechnology to primary production, health and industry could result in an emerging “bioeconomy” where biotechnology contributes to a significant share of economic output. The bioeconomy ... is likely to involve three elements: advanced knowledge of genes and complex cell processes, renewable biomass, and the integration of biotechnology applications across sectors.” In 2011, the European Commission (EC) defined bio-based products as “products that are wholly or partly derived from materials of biological origin, excluding materials embedded in geological formations and/or fossilized”. In 2012, it adopted the strategy for building a sustainable bioeconomy in the EU, where the term bioeconomy means “an economy using biological resources from the land and sea, as well as waste, as inputs to food and feed, industrial and energy production. It also covers the use of bio-based processes for sustainable industries.” (EC, 2012). Given that Romania is a State Member, the rest of the paper presents a very simplistic sketch of Romania’s potential to develop a bio-based economy.

## **1. Romania’s renewable energy profile**

European strategy promotes diversification using renewable energy sources (RES) such as solar, wind, current, tide, geothermal, biomass and hydro energies (Zamfir, 2011).

**Figure 1** Share of renewables in gross final energy consumption, 2014 and 2020 (%)

(\*) Legally binding targets for 2020. Iceland and Norway: not applicable.  
 Source: Eurostat (online data code: t2020\_31)

Source: Eurostat (2016b), Figure 1

The European Union officially adopted a 2020 target of 20% share of energy from renewable sources in final energy consumption (EC, 2009). EU member states set national targets lower or higher than 20%. In Romania, the target of 24% was already reached (Figure 1). In Romania, Law 199/2000 promoted RES and the National Regulatory Authority for Energy (ANRE) was established to supervise the liberalized electricity market.

Romania has a great potential of renewable energy (Table 1). It is worth mentioning that Romania has the largest surface of virgin forests in Europe. In 2013, one-third of the farms in the EU were located in Romania (though many are subsistence households).

**Table 1** Primary production of renewable energy, 2004 and 2014

	Primary production (thousand toe)		Share of total, 2014 (%)				
	2004	2014	Solar energy	Biomass & waste	Geothermal energy	Hydropower	Wind energy
EU-28	113 134	195 814	6.1	63.1	3.2	16.5	11.1
Belgium	760	2 857	9.4	75.8	0.1	0.8	13.9
Bulgaria	1 009	1 842	6.9	63.6	1.8	21.5	6.2
Czech Republic	1 875	3 656	5.4	89.0	0.0	4.5	1.1
Denmark	2 447	3 144	2.6	61.5	0.1	0.0	35.8
Germany	14 568	36 018	10.3	70.8	0.5	4.7	13.7
Estonia	681	1 186	0.0	95.4	0.0	0.2	4.4
Ireland	282	854	1.4	39.6	0.0	7.1	51.8
Greece	1 571	2 329	22.2	47.1	0.5	16.5	13.6
Spain	8 816	18 003	17.3	39.1	0.1	18.7	24.8
France	15 769	21 002	2.9	63.1	1.0	25.7	7.1
Croatia	1 847	2 292	0.5	62.5	0.5	33.8	2.7
Italy	12 193	23 644	8.9	42.2	22.1	21.3	5.5
Cyprus	48	111	66.7	17.8	1.4	0.0	14.1
Latvia	1 837	2 371	0.0	92.3	0.0	7.2	0.5
Lithuania	849	1 358	0.5	92.8	0.1	2.5	4.0
Luxembourg	51	120	9.3	77.2	0.0	7.7	5.7
Hungary	950	2 051	0.5	89.2	6.3	1.3	2.8
Malta	0	13	80.3	20.5	0.0	0.0	0.0
Netherlands	1 881	4 555	2.1	86.0	0.8	0.2	10.9
Austria	6 618	9 370	2.7	55.8	0.3	37.6	3.5
Poland	4 321	8 054	0.2	89.0	0.3	2.3	8.2
Portugal	3 800	5 848	2.2	53.8	3.2	22.9	17.8
Romania	4 594	6 090	2.3	61.9	0.5	26.6	8.8
Slovenia	822	1 180	2.8	50.1	2.7	44.4	0.0
Slovakia	745	1 441	4.0	70.4	0.5	25.1	0.0
Finland	8 728	10 068	0.0	87.6	0.0	11.4	0.9
Sweden	13 147	16 660	0.1	61.2	0.0	32.9	5.8
United Kingdom	2 929	9 696	4.1	62.3	0.0	5.2	28.4
Iceland	2 333	5 223	0.0	0.0	78.7	21.2	0.0
Norway	10 542	12 965	0.0	8.4	0.0	90.1	1.5
Montenegro	—	329	0.0	54.2	0.0	45.8	0.0
FYR of Macedonia	304	278	0.4	56.9	3.1	37.4	2.2
Albania	704	621	2.0	32.5	0.0	65.5	0.0
Serbia	1 859	2 068	0.0	54.0	0.3	45.7	0.0
Turkey	10 783	12 010	6.7	28.8	29.3	29.1	6.1
Bosnia and Herzegovina	696	2 278	0.0	77.6	0.0	22.4	0.0
Kosovo (under UNSCR 1244/99)	176	263	0.1	94.9	0.0	5.0	0.0

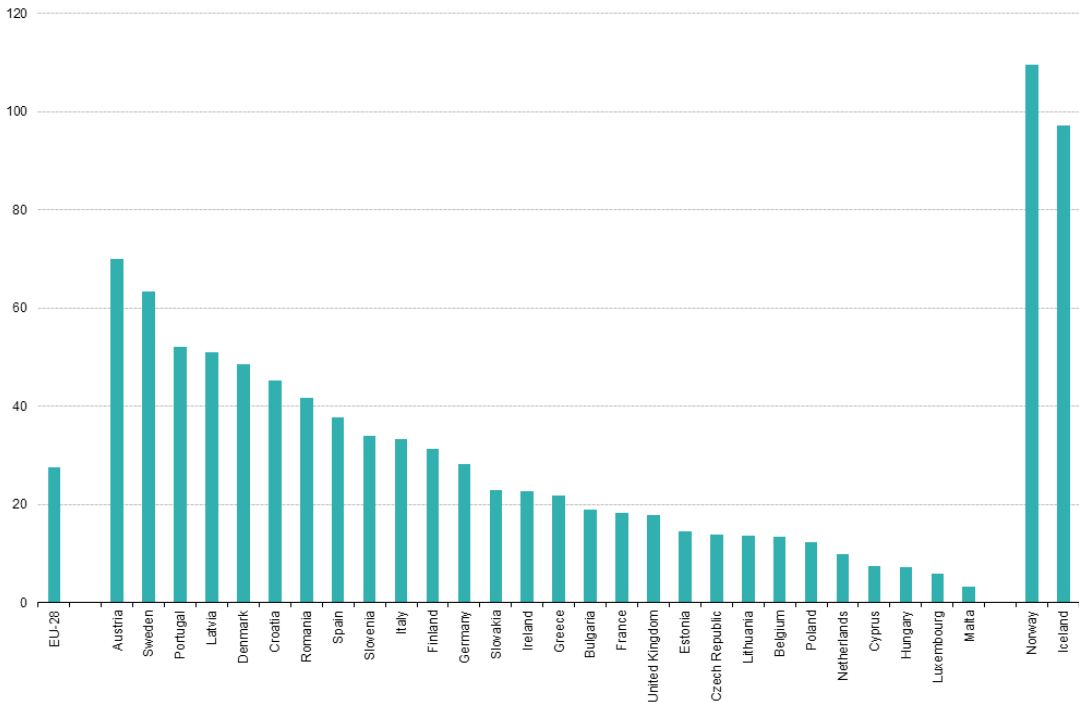
Source: Eurostat (online data codes: ten00081 and nrg\_107a)

Source: Eurostat (2016b), Table 1

The intensive development of Romanian industries was based on the exploitation of natural resources, without mitigating the negative consequences on the environment. After joining the EU, the Romanian government approved the National Renewable Energy Action Plan and the Energy Strategy (NREAP, 2010). Those strategies take into account renewable energy sources.

Figure 2 shows the share of electricity from renewable sources in total gross electricity consumption at EU-28 level.

**Figure 2** Share of electricity generated from renewable sources, 2014 (% of gross electricity consumption)



Source: Eurostat (online data code: tsdcc330)

Source: Eurostat (2016b), Figure 2

Romania has considerable sources of crude oil, natural gas and oil, the energy dependency being lower compared to other EU countries. The primary energy sources in Romania are hydropower and fossil fuels. Almost 19% of the electricity in Romania is generated by two nuclear reactors from Cernavoda Nuclear Power Plant. More than half of the thermal generation uses power and heat cogeneration plants (Diaconu et al., 2008).

An important watershed for the Romanian hydrographic network is represented by the Carpathians. The main river collector is the Danube that flows into the Black Sea. Beside the Danube and other important rivers, Romania has more than 3500 ponds and lakes, though, irregularly distributed. Of the country's surface, 26.2% is covered by forests and other wooded lands. A surface of 180 000 ha in the Danube Delta has reed and other aquatic plants (United Nations, 2001). Portile de Fier is the largest hydropower plant in Europe and it is located on the

Danube River in Romania. There are other hydroelectric facilities in Romania of large and medium size, but since 2008, many small hydropower plants were constructed due to legislative incentives.

The winds blowing in Romania (mountain winds, wind-chill and Black Sea breeze) have an important impact on its energy potential. The policies stimulating the wind energy sector attracted many investments. Although Romania was among the first countries to implement programs for solar applications, solar energy has the lowest development from all its renewable resources. Many photovoltaic parks were built in Romania due to the green certificates scheme, but the number of solar projects is still low. A pilot research program promoted the use of photovoltaic systems in agricultural communities. Electromontaj S.A. built a 3MW pilot wind energy park in Banat Mountain, while PowerWind GmbH installed 56 wind turbines (Patlitzianas and Karagounis, 2011).

Geothermal resources are used for health and recreational bathing, heating, aquaculture and greenhouse heating, but they are still not exploited at their maximum potential. Some reasons are related to the lack of funding and the high costs of technologies. Most of the Romanian geothermal sites are used only for recreation.

In Romania, renewable energy is obtained using mostly traditional renewable resources (hydro) to the detriment of green renewable resources (Diaconu et al., 2008). Biomass energy is based on different resources: agricultural and household waste, forest wastes and energy crops. The production of biomass energy falls into two categories: biofuels (biomass is used to obtain liquid fuels that replace petroleum production needed in transport sector) and biopower (biomass is used to obtain electricity and heat). The local production of bioethanol and biodiesel began in 2007 but biofuels are produced at a low level, even if the country has a high potential of processing sunflower, corn, rape and soybean crops (Dumitru et al., 2004). Biomass represents 51.61% of the global RES potential in Romania, but a large amount of biomass is not used. There are only few incentives for using modern biomass technologies for electricity and thermal generation. The CEFA project was the first project in Romania for producing electricity from biomass (Vac et al., 2013). Other companies strive to use or implement similar technologies, but the development of this field is still low in Romania.

Eurostat provides country-specific energy balances (annual data) for various renewable sources of energy (EUROSTAT 2016b). We consider to be of interest to present some comparisons for countries in the Danube Region.

For all renewable sources of energy and also separately for solar photovoltaic, solar thermal, tide, wave and ocean, wind power, and biomass and renewable wastes, Germany had the highest production of primary energy in 2010 and 2015. For hydro power, Austria had the highest production in 2010 and 2015 (almost 11% in each year), being followed by Germany.

Germany was, in 2015, the largest consumer of energy based on all renewable sources similarly to 2010 (and that year it was also the leader in final consumption for biomass and solar thermal energy).

In 2010 and 2015, Romania was the only partner country to use geothermal energy in industry (39.39% of the energy consumption in industry in the entire EU-28), while Germany was the leader when the energy sources were either all renewable (12.25%) or biomass and renewable wastes (12.26%).

In terms of final energy consumption in various industries, in 2010 and 2015, Germany was the largest consumer for chemical and petrochemical, food and tobacco, paper, pulp and print, wood and wood product industries. For the textile and leather industry, in both years, the largest consumer of energy from all renewable sources and also from biomass and renewable wastes was Slovenia (3.54% in the total energy consumption in this industry in the entire EU-28 in 2010, respectively 10.73% in 2015).

The next section offers more details regarding some of the Romanian industries that are potential building blocks for a bio-based society.

## **2. Romania's potential for bio-based development**

Researchers at the nova-Institute (2016) created a powerful graphic to explain what is their view on a bio-based economy. To them "Bio-based Economy introduces new chemicals, building-blocks and polymers with new functionalities. It enables the development of new process technologies such as industrial biotechnology and it delivers solutions for Green and Sustainable Chemistry.

It is supposed to help mitigate climate change through the substitution of petrochemicals by materials with lower GHG emissions.”

For the case of Romania, Pașculea (2015) identifies fourteen sectors with a high potential for bio-based economic development. We will mention some of them. The food industry is the largest manufacturing sector, with a turnover of more than 1 billion euros.

Agriculture has a high potential to produce bioenergy (biofuel, biogas, biomethane), while solid garbage and vegetable residue might be used to produce green energy.

The bio-natural products sector based on the spontaneous flora has already decades of experience (for example, companies like Fares, Medica Group, Dacia Plant, Gerovital, Plafar).

Horticulture is another sector that could be easily stimulated given the valuable local horticultural genetic resources and know-how.

Pașculea (2015) also reports on the potential for developing bio-pharma since Antibiotics SA Iași already produces bio-active substances and those for semisynthetic conservation and bioequivalence studies for generic medicine are cheaper compared to the other European countries.

Environmental biotechnology, such as cleaning of contaminated soil using phytoremediation and microorganisms, is another sector of interest.

## Conclusions

Given that our globalized world is confronted with major disequilibria directly connected to the ‘modern’ unsustainable way of living, this paper mentions two approaches that are called ‘bioeconomy’. The first one was advanced by Nicholas Georgescu-Roegen in the 1970s and the other is implemented by the European Union. As a case study, Romania’s potential to develop a bio-based economy was presented based on its renewable energy profile and the bio-based industrial sectors with potential for development.

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## **Regional Economic Competitiveness. The Case of Romania**

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**Abstract:** The paper approaches the issue of regional competitiveness in Romania, focusing on simple tools for analysis, namely the shift-share analysis (introduced by Dunn in 1960) and specific competitiveness indicators: RCA, RCA1 and RCA2. As documented in the literature, the level of such indicators and the changes that occur in their levels are key factors for an analysis of economic and social performance at regional and sub-regional levels (D'Elia, 2005; Chilian, 2012; Iordan et al., 2014; Pelinescu et.al., 2015). The classical form of shift-share analysis chosen by the authors envisages to “divide” the dynamics of a certain growth factor in a certain region into three components: national, sectoral and regional.

Given such issues, by using the sectoral shift-share analysis of exports completed by the indices-based competitiveness analysis in the paper will be identified the regions of

Romania which reveal dynamics of their economic structures conducing to high levels of external competitiveness (and, thus, to a higher degree of integration into the European Single Market), and to sustainable specializations, adequate to the requirements of building a modern economy, with high flexibility and high technological level.

**Keywords:** regional competitiveness, Romanian regions and counties, comparative advantage/disadvantage indices, shift-share analysis

**JEL Classification:** F14, R12, R15

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## Introduction

Internationally, the theoretical and methodological approaches on regional competitiveness and its determinants are extremely diverse (see, for instance, Kitson, Martin and Tyler, 2004; Boschma, 2004; Dudensing, 2008; Huggins, Izushi and Thompson, 2013; Aiginger and Firgo, 2015; Bekes, 2015). In terms of comparative advantage theory applied only to the regions, in the literature one may identify several theories that address the issues of regions as locations for export specialization (Hampton Roads, 2011): classical economic theory (comparative advantage and absolute advantage), neoclassical economic theory (endowment factors theory) Keynesian economic theory (regional export base multipliers), development economics (regional endogenous growth), new international trade theory (regional specialization), new economic geography (diversification and specialization processes, agglomeration of economic activities).

The factor endowment, attractiveness for investors and workforce, the labor policies applied in the territorial units coupled with the effectiveness of penalty represented by inter-regional migration of capital and labor (which once lost by a region are very difficult to be replaced) may cause that one region is successful and able to provide a higher than decent standard of living for its people, or one in a state of “relative bankruptcy”, when the efficiency of all its sectors is lower than that of the other regions, which is expressed in terms of long-term decline and exclusion (Camagni, 2002).

The processes of globalization and internationalization of economic activities and businesses determine important changes in the content of national, regional and even local advantages and of sectoral specialization at the local level through reconfiguration of collaborative/partnership relationships between companies

and between them and academia and public institutions, and due to changes in innovation processes at regional and local level (see, for instance, Isaksen and Karlsen, 2013). Both at national and regional level, the export sectors are predominantly exposed to international competition and are the main factors in the creation and dissemination of knowledge and innovation and, ultimately, of economic growth and the current sectoral structure of exports predetermine their future state, while the currently existing assets determine the new sectors to be developed in the future (Hausmann and Klinger, 2007; Kadochnikov and Fedyunina, 2013; Landesman, Leitner and Stehrer, 2015).

In literature, one may find many studies showing that in the economic integration process the less developed regions tend to develop unbalanced inter-sectoral trade relations with more developed regions, with a negative impact on the productive base, meaning the specialization of less advanced regions in labor-intensive sectors or that extensively use the natural resources, and not in modern sectors, competitive on international markets, which intensively use capital and/or knowledge and innovation (Camagni, 1992; Kallioras and Petrakos, 2010; Petrakos, Kallioras and Anagnostou, 2011). Knowledge and innovation are increasingly considered as the main factors for boosting regional competitiveness, a fact recognized in the EU policy by developing the concepts of smart specialization and construction of regional advantages and by development and implementation of smart specialization policy, with a sharp territorial/local focus, aimed at promoting the economic diversification of regions based on their assets and unique characteristics (McCann Ortega-Argiles, 2013; Boschma, 2013; Trippl, Asheim and Miörner 2014; Moodysson, Trippl and Zukauskaitė, 2015).

Given such problems, by using the *sectoral shift-share analysis of exports* we try to identify in the following the regions of Romania that record developments in their economic structures capable of leading to high levels of external competitiveness (and thus to greater integration into the single market) and to sustainable specializations, appropriate to the requirements of building a modern economy, with high flexibility and high technological level. This analysis will be accompanied by an *indices-based analysis of competitiveness*, a method used in competitiveness studies in Europe (P. Annoni, K. Kozovska, 2010, 2013; Danon M., 2014; Sujová and Hlavackova, 2015; Munteanu *et al.*, 2010).

## 1. Methodological Issues

- The *shift-share method* (introduced by Dunn in 1960) is commonly used in regional analysis, due to its simplicity in capturing changes in the variables taken into account. It requires only relatively modest amounts of data that are generally available, the resulting analysis being quick and reasonably accurate (Nazara and Hewings, 2003). It is a commonly used methodology to obtain insights into the determinants of regional economic growth processes.
- This methodology can address several issues, such as increase in output, in employment and labor productivity growth, exports and imports growth, etc. (Fernández Vázquez *et al.*, 2005). These indicators and their changes may be key drivers of analysis of economic and social performance at regional and sub-regional levels (D'Elia, 2005; Chilian, 2012; Iordan *et al.*, 2014). In its “classical” form, such analysis aims to “divide” the evolution of a particular determinant of growth in a particular region based on three components:
  - i) the *national component*, which expresses how much a variable in each sector and region would have changed if it had experienced the same rate of increase as the overall average national rate (or the EU rate, for a broader analysis),
  - ii) the *sectoral component* (called sectoral mix), which expresses the situation of variables when each of the analyzed sectors would have experienced the same growth rate as the national one, less the previous global component and
  - iii) the *shift component* (called regional shift or competitive effect), as result of the difference between the actually observed trends and the developments calculated as a proportion of national developments, capturing those dynamic elements that are specific/particular for each region. This component can be interpreted as the overall result of a balance between “attractiveness” and “rejection” of a region for various industries (Leo and Philippe, 2005).

The shift-share analysis has as starting point the following equation:

$$\text{Total shift} = \text{NS} + \text{IM} + \text{RS}$$

(1)

where: NS is the national effect (country weights of the main groups of goods under CN), IM is the sectoral effect (sectoral mix effect) and RS is the regional effect. Calculation of the three components for each sector is as follows (D'Elia, 2005; Chilian, 2012):

1. The share of national exports by major commodity groups (national effect):

$$NS = NI_{st-1} * [(RO_t / RO_{t-1} - 1)]$$

(2)

where: s refers to each group of commodities as according to the CN and t and t-1 to the beginning and end of period, respectively, and NI relates to the export of a particular region to the national export.

Thus, the share of the national commodity groups is the export (mil. Lei or Euro) in a given region by groups of goods at the beginning of the analyzed period multiplied by the growth rate of Romania's total export in the same period.

2. The sectoral mix (sectoral effect)

$$IM = NI_{st-1} * [((RO_{st} / RO_{st-1}) - 1) - ((RO_t / RO_{t-1}) - 1)]$$

(3)

3. The regional shift (regional or competitive effect):

$$RS = NI_{st-1} * [((NI_{st} / NI_{st-1}) - 1) - ((RO_{st} / RO_{st-1}) - 1)]$$

(4)

The regional shift reflects the competitive component in a region, namely the unique dynamic elements that contribute to its export performance. In other words, it reveals which are the leading or laggard regions and product groups as compared to the national levels. The analysis may be further detailed by components, namely: a regional comparative advantage component (ACR) and an allocation component (CA). The decomposition of the regional shift component is important at sub-regional/county level for any existing scale effect when then regions differ much in size (D'Elia, 2005; Esteban-Marquillas, 2000; Baxendine *et al.*, 2005).

$$ACR = NI_{t-1} * (RO_{st} / RO_{t-1}) * [(NI_{st} / NI_{st-1} - 1) - (RO_{st} / RO_{st-1} - 1)]$$

(5)

$$CA = [NI_{st-1} - NI_{t-1} * (RO_{st}/RO_{st-1})] * [(NI_{st}/NI_{st-1} - 1) - (RO_{st}/RO_{st-1}) - 1]$$

(6)

2. The *indices-based analysis* has as reference the approach in the study of Sujová and Hlavackova (2015), where competitiveness is seen in terms of trade relations, which allows highlighting the potential of a region to focus its local development policies towards those sectors or areas of activity that have competitive advantage in the international market.

In such a context, in the current paper result indicators computed at regional level, denoted by RCA, RCA1, and RCA2, were selected in order to reveal the comparative advantage of the large Romanian development regions and their counties in the international markets.

The RCA index highlights the ability of a county to export certain products and is computed as follows:

$$RCA = \ln[(x_{ij}/m_{ij}) / (X_j/M_j)],$$

(7)

where:

$x_{ij}$  = export value of the  $i$  product group in the  $j$  county;

$m_{ij}$  = import value of the  $i$  product group in the  $j$  county;

$X_j$  = total amount of export of the  $j$  county;

$M_j$  = total amount of import of the  $j$  county;

From the point of view of the interpretation of results, the  $RCA < 0$  indicates comparative disadvantages in trade and  $RCA > 0$  indicates the presence of comparative advantages in commodity trade.

The competitiveness growth indicator (RCA1) is computed as follows:

$$RCA1 = (x_{ij}/X_j) / (X_j/X),$$

(8)

where:  $X$  is the total export of Romania.

As economic interpretations of its values, a  $RCA1 > 1$  shows a comparative advantage of a certain industry at national level, and a  $RCA1 < 1$  reveals a comparative disadvantage.

The net trade performance indicator (RCA2) highlights the competitive ability and is calculated as follows:

$$RCA2 = (x_{ij} - m_{ij}) / (x_{ij} + m_{ij}),$$

(9)

The interpretation of this indicator is as follows:

$RCA2 = -1$  means no export of products;

$-1 < RCA2 < 0$  indicates competitive disadvantages;

$RCA2 = 0$  indicates that export is equal to import;

$0 < RCA < 1$  indicates comparative advantages;

$RCA2 = 1$  means no import of products.

In the current paper, with the help of classical shift-share analysis we tried to evaluate the sector development and external competitiveness lags of regions and counties of Romania in terms of foreign trade in the regions or in exports.

Based on data provided by the Romanian National Institute of Statistics (statistical publications, the TEMPO-on line data base), the issue of export sectoral structure dynamics pertaining to regional competitiveness in Romania are analyzed for the 2005-2013 period, and for the 8 development regions and their counties.

By product groups, the following broad groups as according to the Combined Nomenclature (NC) are considered for our analysis: I – Live animals and animal products, II – Vegetable products, III – Animal or vegetable fats and oils, IV – Food products, beverages, tobacco, V – Mineral products, VI – Chemical products and related products, VII – Plastics, rubber and articles thereof, VIII – Raw and tanned hides and skins, furs, and articles thereof, IX – Wood, cork and wickerwork products, X – Pulp, paper and cardboard, and articles thereof, XI – Textiles and articles thereof, XII – Footwear, hats, umbrellas and similar articles, XIII – Stone, cement, pottery, glass products and from similar materials, XV – Basic metals and articles thereof, XVI – Machinery, equipment and appliances, XVII – Transport means, XVIII – Optical, photographic, cinematographically, measurement and control instruments and apparatus, medical instruments, XX – Various commodities and products, XXII – Other products, not elsewhere specified.

## 2. Presentation of results

The exports of Romanian regions during the 2005-2013 period highlights two relatively distinct periods: 2005-2008 (pre-crisis) and 2009-2013 (crisis and post-crisis), with sharp declines in 2009 and partial in 2012, overall and for the main groups of products (according to the CN classification), with certain regional and/or sectoral peculiarities. The change in the sectoral structure of regional exports has partially occurred towards increasing the competitiveness of product groups with mid- and high-technology level in the foreign markets, and towards greater integration into the international value chains of high and medium technology, but also partly towards increasing the quality and competitiveness of products from agriculture, underrepresented in the structure of Romanian exports before joining the EU due to low competitiveness.

Of the two analyzed sub-periods, we focused mainly on the crisis and post-crisis period (2009-2013), in order to identify the potential structural changes induced by it. In this case, to the above-mentioned product groups that registered a negative sectoral mix the XVI group was also added, one of the groups with significant share in the national and regional exports.

In this period, the impact of sectoral negative mix was offset for certain product groups in all regions by the effects of positive regional shifts: Nord-Est (the V, VIII, XI, XV and XVI product groups), Sud-Est (the V, VIII and XI product groups), Sud Muntenia (the XI, XII, XV and XXII product groups), Bucharest-Ilfov (the VIII, XI, XII and XIII product groups), Sud-Vest Oltenia (the XII, XIII and XVI product groups), Vest (the V, XV, XVI and XXI product groups), Nord-Vest (the V, XIII, XV and XXII product groups) and Centru (the VIII, XII, XIII, XV and XVI product groups). Under circumstances of positive sectoral mix, the sub-period is also characterized by positive and/or negative developments in the regional shift component of the export of various groups of products in all regions (Table 1). The most obvious positive sectoral export change (both positive sectoral mix and regional shift component or RS turned positive in the 2009-2013 period) is observed in the Nord-Vest, Central, Nord-Est, Bucharest-Ilfov and Vest regions.

**Table 1**

**The evolution of regional shift (RS) for the export of product groups according to the CN classification, under a positive sectoral mix in the 2009-2013 period over the whole analyzed period, 2005-2013**

	Product groups with negative RS in the 2005-2013 period and also negative in the 2009-2013 period	Product groups with negative RS in the 2005-2013 period and positive in the 2009-2013 period	Product groups with positive RS in the 2005-2013 period and negative in the 2009-2013 period	Product groups with positive RS in the 2005-2013 period and also positive in the 2009-2013 period
Nord-Est	II, III, VI,	IV, X, XVII, XVIII,	XXII	I, VII, IX, X
Sud-Est	IV, VII, IX, XVII, XVIII	VI		I, II, III, X, XXII
Sud Muntenia	III, VI, IX, XXII		I, II, X	IV, VII, XVII, XVIII
București-Ilfov	IX, XVII	I, VII, X, XVIII	II, III, IV	VI, XXII
Sud-Vest Oltenia	VI, VII, IX, X	XVIII	III, IV	I, II, XVII, XXII
Vest	I, II, IX, XXII	IV, VII, XVII	XVIII	III, VI, X
Nord-Vest	X, XXII	I, II, IV, VI, XVIII	IX	III, VII, XVII
Centru	XVIII	II, IV, XVII	I, VI, XXII	III, VII, IX, X

Source: Authors' computations based on data from the Romanian National Institute of Statistics and TEMPO-on line.

The *competitive regional effect decomposition* emphasizes the relatively lower share of regional competitive advantage (ACR) in relation to the allocation effect (CA) in all the regions and for all the analyzed groups of products (with the exception of product group V - Table 2). The greatest influence of comparative advantage is found in the Bucharest-Ilfov and Vest regions and the lowest in the Sud-Vest Oltenia and Nord-Est regions, in line with the share of these regions in the structure of national exports.

Table 2

**Decomposition of regional shift component of exports  
by main commodity groups, 2013 to 2005**

	Nord- Est		Sud- Est		Sud Munte- nia		Sud-Vest Oltenia	
	ACR	CA	ACR	CA	ACR	CA	ACR	CA
I	2.1	23.8	6.8	40.9	1.9	13.9	0.5	7.6
II	-7.2	-80.1	44.5	268.2	3.5	25.3	1.2	17.6
III	-4.7	-52.1	7.5	45.2	-6.6	-47.0	0.0	0.3
IV	-9.5	-105.4	-5.8	-35.0	13.3	95.6	0.6	8.7
V	-216.2	-155.2	58.2	556.0	15.8	71.2	-21.9	13.0
VI	-2.5	-28.2	-5.7	-34.2	-44.5	-319.3	-10.1	-153.2
VII	0.8	8.4	-3.5	-21.2	2.6	18.9	-8.2	-124.0
VIII	-0.6	-6.9	0.2	1.4	-0.7	-5.0	0.9	13.8
IX	7.3	81.3	-3.8	-22.9	-3.7	-26.4	-2.2	-32.9
X	-1.8	-20.5	0.0	0.1	1.1	7.6	-0.3	-4.0
XI	8.7	96.2	8.8	52.9	-3.0	-21.8	4.6	69.7
XII	-3.4	-38.1	1.1	6.9	-0.9	-6.3	0.3	4.6
XIII	-0.7	-7.4	0.7	4.0	4.3	31.1	-0.1	-1.7
XV	-8.2	-90.4	-153.3	-924.6	16.7	119.8	-11.6	-177.0
XVI	10.1	112.3	-0.8	-4.6	-44.4	-318.5	5.1	77.8
XVII	-0.5	-5.5	-125.1	-754.5	177.5	1272.2	25.8	391.4
XVIII	-2.3	-25.6	0.0	-0.2	5.5	39.2	0.0	-0.7
XX	-8.7	-96.0	-4.4	-26.6	27.1	194.4	-1.1	-16.6
XXII	0.4	4.8	2.7	16.2	-12.3	-88.4	2.8	42.3
	Vest		Nord- Vest		Centru		Bucharest- Ilfov	
	ACR	CA	ACR	CA	ACR	CA	ACR	CA
I	-12.7	-68.1	-0.2	-1.5	1.3	10.2	-5.7	-21.0
II	-25.3	-135.9	-24.6	-194.5	-2.2	-18.2	27.2	100.6
III	0.2	1.2	5.8	45.8	0.1	1.2	0.6	2.4
IV	-0.9	-5.1	-8.4	-66.0	-3.0	-24.4	30.9	114.4
V	9.2	-2.0	0.0	-2.7	98.4	-81.1	0.0	-342.6
VI	35.3	189.9	-8.8	-69.2	7.8	64.0	80.5	298.0
VII	-4.6	-24.8	29.7	234.7	4.7	38.1	-32.3	-119.5
VIII	0.0	0.2	-1.9	-15.3	1.9	15.9	-0.9	-3.1
IX	-14.2	-76.4	1.8	14.3	29.2	238.7	-40.4	-149.7

X	2.2	12.0	-1.6	-12.8	2.9	23.3	-1.7	-6.4
XI	-10.1	-54.3	4.4	35.0	16.2	132.5	-72.3	-267.5
XII	7.9	42.4	4.2	33.0	0.2	1.9	-11.5	-42.5
XIII	0.4	2.3	0.1	1.1	-0.9	-7.3	-5.5	-20.5
XV	49.0	263.5	33.5	264.5	25.3	207.4	82.0	303.4
XVI	-153.1	-823.1	5.7	45.2	106.4	870.9	23.6	87.3
XVII	-97.0	-521.8	0.8	6.5	-24.7	-202.0	-30.4	-112.7
XVIII	8.6	46.0	-3.3	-26.0	-3.1	-25.4	-2.7	-9.9
XX	21.5	115.5	18.1	142.9	-12.4	-101.3	-53.7	-198.9
XXII	-0.8	-4.3	-1.7	-13.1	2.9	23.6	5.3	19.5

Source: Authors' computations based on data from the Romanian National Institute of Statistics and TEMPO-on line.

Deepening the analysis of competitiveness in terms of export to county level by using the RCA1 indicator<sup>1</sup>, one may find that few products have maintained comparative advantage for the entire analyzed period. The economic and financial crisis of 2008 prompted certain restructuring, eliminating some product groups and introducing new ones, with comparative advantage in the market. Product groups that maintained their competitiveness during 2005-2013 and their share in total exports in the Romanian counties in 2013 are shown in Table 3.

As regards the Bucharest Municipality, although it reveals as having the highest share in the Romanian foreign trade, namely around 24% a share in 2013 (declining as compared to 2005, when its share reached a little above 30%) and 16.11% a share in Romanian total export, it has registered no comparative advantage for any product group in all the years under analysis. Such a situation is currently difficult to explain and requires a detailed analysis, specific for the structural evolution of export at the territorial level of Bucharest Municipality, based on statistical information adequate to the goal of research.

1 Data available upon request.

Table 3

**Competitive export groups during the 2005-2013 period, by counties**

Region/County	Product groups with export comparative advantage over the 2005-2013 period	Share of selected product groups in total export, %, in years:		
		2005	2010	2013
Nord-Est				
Bacau	V, VI, IX, XI, XII	88.0	65.5	61.7
Botosani	VIII; IX, XI, XII, XV, XX	91.5	90.1 <sup>1</sup>	89.3
Iasi	IV, VI, XI, XV, XVI, XVII, XX	87.7	93.2	94.4
Neamt	IX, XI, XIII, XV, XVI, XX	95.8	85.8	92.5
Suceava	IX, X, XI, XII, XVI, XVII, XX	95.7	87.2 <sup>2</sup>	89.9
Vaslui	III, IV, XI, XII, XVI, XVIII, XX	98.0	97.5	94.4
Sud-Est				
Braila	I, II, XI, XII, XV, XVI, XVII	97.6	98.4	96.7
Buzau	XI, XV, XVI, XX	81.0	52.4 <sup>3</sup>	49.9
Constanta	V, VII, XV, XVII	86.6	86.6	72.9
Galati	XV	90.9	80.1	58.1
Tulcea	VI, XI, XV, XVII	96.5	90.3	84.6
Vrancea	II, IX, XI, XV, XVI, XX	98.8	91.2 <sup>4</sup>	87.7
Sud Muntenia				
Arges	XVI, XVII	73.2	88.0	85.0
Calarasi	VI, IX, X, XI, XV, XVI	92.5	59.3 <sup>5</sup>	55.9
Dambovita	VI, XI, XV, XVI	91.6	87.7	85.0
Giurgiu	I, III, VI, VII, IX, X, XI, XV, XVI, XVII	98.4	9.39	95.0
Ialomita	I, II, III, IV, VI, XI, XV, XVI	98.7	83.1	98.8
Prahova	V, VI, XI, XVI	84.3	81.3 <sup>6</sup>	78.5
Teleorman	I, VI, XI, XV, XVI	96.4	68.9 <sup>7</sup>	73.4
Sud-Vest Oltenia				
Dolj	XI, XV, XVI	30.9	80.1	88.3
Gorj	I, II, VII, IX, XI, XIII, XV, XVI, XX	99.7	92.5	86.4
Mehedinti	IX, XI, XV, XVI, XVII, XX, XXII	92.6	98.1 <sup>8</sup>	93.0
Olt	XI, XV, XVI	95.5	66.7 <sup>9</sup>	66.2
Valcea	VI, VII, IX, XI, XV, XVI, XVII, XX	95.8	95.2 <sup>10</sup>	88.6
Vest				

Arad	XI, XVI, XVII, XX	84.5	83.8	86.2
Caras-Severin	IX, XI, XV, XVI, XVII, XVIII, XX	96.0	98.1	95.7
Hunedoara	IX, XI, XII, XV, XVI, XVII	97.3	93.0 <sup>11</sup>	94.5
Timis	VII, XVI	4.3	11.9 <sup>12</sup>	9.6
Nord-Vest				
Bihor	XI, XII, XVI, XX	67.6	35.2 <sup>13</sup>	33.4
Bistrita-Nasaud	I, VII, IX, XI, XV, XVI, XVII	88.5	95.8 <sup>14</sup>	96.8
Cluj	XVI	22.3	78.4	28.8
Maramures	IX, XI, XV, XVI, XX	81.3	87.8	81.8
Satu Mare	XI, XII, XV, XVI, XX	92.4	70.5	56.6
Salaj	XI, XV, XVI, XX	95.2	90.2 <sup>15</sup>	90.0
Centru				
Alba	IX, XI, XII, XIII, XV, XX	88.3	80.1 <sup>16</sup>	78.6
Brasov	IX, XV, XVI, XVII	65.3	74.0	94.9
Covasna	I, IX, XI, XV, XVI, XX	94.7	90.5 <sup>17</sup>	90.2
Harghita	VII, VIII, IX, X, XI, XV, XVI, XX	94.8	93.0 <sup>18</sup>	87.3
Mures	VI, XI, XII, XIII, XV, XVI, XVII, XX	94.3	92.5	90.5
Sibiu	VIII, XI, XV, XVI, XVII	76.5	83.0 <sup>19</sup>	85.6
Bucharest-Ilfov				
Ilfov	II, IV, V, VII, XI, XV, XVI	63.9	74.6 <sup>20</sup>	72.9

Note: 1. Group XI accounted for 79.1% of the export; 2. Grupa IX accounted for 40% of the export; 3. Groups II, III and IV accounted for 35.6% of the export in 2013 and also showed comparative advantage in 2013; 4. Group XI accounted for 78.1% of the export in 2013; 5. Groups I and II, which accounted for 29.6% of the export in 2013 have also recorded comparative advantage in 2013; 6. Groups V and VI accounted for 33.1% and 34.5%, respectively, of the export; 7. Group IV, which accounted for 14.8% of the export in 2013 showed comparative advantage in 2013; 8. Group XVII accounted for 54.9% of the export; 9. Group XV accounted for 54.4% of the export; 10. Groups VI and VII accounted for 33.1% and 32.9%, respectively, of the export; 11. Group XVI accounted for 46.2% of the export; 12. Group XVI, which accounted for 37.2% of the export in 2013, registered comparative disadvantage; 13. Group XVI, which accounted for 44.1% of the export in 2013 registered comparative disadvantage; 14. Group XVI accounted for 54.0% of the export; 15. Group XV accounted for 63.1% of the export; 16. Group IX accounted for 49% of the export; 17. Group XI accounted for 50.9% of the export; 18. Group XI accounted for 41.7% of the export; 19. Group XVI accounted for 45.4% of the export; 20. Group IV accounted for 37.4% of the export.

Source: Authors' computations based on data from the Romanian National Institute of Statistics and TEMPO-on line.

One may notice that the product groups which have maintained comparative advantage in exports over the 2005-2013 period at county level have also major shares in the export of Romanian counties, except for Cluj County (2005 and 2013); Calarasi County (2010 and 2013), Buzau County (2010 and 2013), Bihor County (2010 and 2013) and Timis County in all the analyzed years.

Also the data in Table 3 show that some counties can be considered as specialized in the export of a single group of products, such as Botoşani (group XI); Galati (Group XV) Vrancea (group XI); Tulcea and Arges (Group XVII), with a share in the export of the county around or above 70% in 2010. In 2013, following the economic crisis, some changes in occurred in values, ranging from 60 to 80%. A special situation was recorded in 2013 in the Cluj County, when a dramatic decrease in the export of group XVI has occurred, against the background of industry reallocation (the best known example is the Nokia Company, which has closed its factory in Romania).

Also surprising is the fact that Timis County maintained comparative advantage during the 2002-2013 period for only two product groups (VII, XVI) whose share in exports was about 12% in 2010, to decrease to about 10% in 2013 although annual data indicates a greater number of product groups.

## Conclusions

Far from being exhaustive, our scientific approach of regional competitiveness based on specific indices, namely RCA, RCA1, and RCA2 has provided more detailed information about the regional competitiveness in Romania and revealed, generally speaking, to what extent the participation of regions to foreign trade is advantageous or not, and in particular, which were the products with competitive or comparative advantage.

The assessment of sectoral development and external competitiveness lags in the Romanian regions and counties pertaining to regional foreign trade, and to regional exports, respectively, by using the classical shift-share analysis, has revealed that the shift in the export sectoral structure by main product groups in a region over a certain period was determined, firstly, by the overall changes occurred in the Romanian economy – reflected by the dynamics of total exports. Secondly, it was generally determined by the changes occurred in the economy

of each region or county, knowing how much important are the local factors in ensuring an economic environment that favors the increase in company competitiveness, which in Romania mainly value the comparative advantages and to a lesser extent the competitive advantages.

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## The Internal Control Management Development Strategy in Romania

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**Abstract:** The internal control management means all the forms of control exercised at the public entity, including internal audit, established by the management in accordance with its objectives and legal regulations in order to provide fund administration economically, efficiently and effectively; it also includes the organizational structures, methods, and procedures. The phrase, “internal control management” emphasizes the responsibility of all hierarchical levels for controlling all internal processes undertaken in order to achieve its general and specific objectives.

The internal control management development strategy prioritizes managerial responsibility and ensures that the implemented internal control management systems are adequate and prevent or limit errors and fraud.

**Keywords:** internal control management system, operational procedure, system procedure, risks registry, internal control standards, risk management

**JEL Classification:** M40, M42, M48, M49

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## 1. Terms and Abbreviations Glossary

### 1.1. Definitions

**Governance** - a set of processes and structures implemented by the management to inform, target, manage and monitor the activities of the public entity in order to achieve its objectives.

**Methodological guidance** – the counseling activity in the implementation and development of the internal control management in public entities and providing expert advice by the methodological guidance team at the request of the public entity;

**Risk management** – the methodology aimed at providing a comprehensive risk control, allowing to maintain an acceptable level of risk exposure for the public entity, with minimal costs. Risk management covers a wide range of activities rigorously defined and organized, starting from the conditions of existence and objectives of the public entity and also the analysis of the risk factors in optimal and efficient functioning concepts.

**Objectives** - the positive effects that the public entity management seeks to achieve or events / negative effects that the management tries to avoid.

**Formalized procedure** - all the steps to be followed, the established working modalities and rules to be applied in the execution of work, in its duty or task and published on paper and / or electronic. The formalized procedures can be system procedures and operational procedures.

**The operational procedure** - a procedure that describes a process or an activity that is carried out at the level of one or more compartments of an entity.

**System procedure** - a procedure that describes a process or activity that takes place in all departments / structures of an entity.

**Management responsibility** - defining a legally binding obligation of the tasks of the public entity manager or an organizational structure thereof, which involves exercising management within internal and external determinations, in order to achieve effective, efficient and in accordance with the legal provisions the objectives, to communicate and respond to the failure of the managerial obligations under the legal liability. The managerial accountability derives from the manager's responsibility for all five components of the internal management

control in the public sector: the control environment; performances and risk management; control activities; information and communication; evaluation and audit.

**Risk** - a problem (situation, event, etc.) that has not yet appeared, but may occur in the future, in which case the previously fixed obtained results are threatened or enhanced. In the first case, the risk is a threat, and in the second the risk is an opportunity. The risk is the uncertainty in achieving the desired results and must be viewed as a combination of likelihood and impact.

**Significant risk** - high risk, that may affect the entity's ability to achieve its objectives.

**Risk strategy** - the general approach that the entity has on risks. This must be documented and easily accessible to the public entity. The risk strategy defines the risk tolerance.

## 1.2. Abbreviations

Nr. Crt.	Abbreviation	Name
1.	CM	Monitoring Commission
2.	Central public entities	Principal loan managers of the state budget, of the state social insurance budgets and of any other special fund budget
3.	EGR	Risk management team
4.	RR	Risk register
5.	SCIM	The internal control management system

## 2. General considerations on the concept and development strategy of the internal control management

The community legislation on internal control consists mostly of general principles of good practice accepted internationally and also in the European Union. The way these principles translate into internal control systems is specific to each country and it's determined by legislative, administrative, cultural, etc. conditions.

In the context of the general principles of good practice found in the Community legislation, the internal control is associated with a larger sense, and it is seen as a management function and not as a verification operation. By exercising the

control, the management detects deviations from the targeted results, analyze the causes that determined those and take corrective or preventive measures.

The necessity and compulsoriness of the internal control for public entities is regulated by the Government Ordinance no. 119/1999 on internal control management and preventive financial control, republished, as amended and supplemented.

According to the Government Ordinance no. 119/1999, republished, as amended and supplemented, the internal control management is defined as all forms of control exercised at the public entity, including internal audit, established by the management in accordance with its objectives and legal regulations in order to ensure the management of public funds economically, efficiently and effectively; it also includes organizational structures, methods, and procedures.

Although the national and international definitions of internal control are numerous, they are not contradictory in essence, all stating that it is not a single function, but an assembly of devices implemented by those responsible at all the organization levels in order to have control over the operation of their activities.

The organization of the internal control management at any public entity, envisages the realization of three categories of permanent objectives, which can be grouped as it follows:

- a) objectives on the effectiveness and operating efficiency - include objectives related to the goals of the public entity and using in an economy, effectiveness and efficiency way the resources, including the objectives on the resources safeguards of the public entity from misuse or loss and identifying and manage liabilities;
- b) objectives on the reliability of external and internal intelligence - include the objectives related to keeping a proper accounting, to the quality of the information used in public entities or given to third parties, and also protecting the documents against two categories of fraud: concealing fraud and results distortion;
- c) objectives regarding the compliance with the laws, regulations and internal policies - include the objectives ensuring that the entity's operations are conducted in accordance with obligations imposed by laws and regulations and in compliance with internal policies.

The projection, implementation and further development of a viable internal control system is possible only if the system meets the following requirements:

- a) to be adapted to the size, complexity and the specific environment of the entity;
- b) to cover all management levels and all activities / operations;
- c) to be constructed with the same “instruments” in all public entities;
- d) to provide reasonable assurance that the entity’s objectives will be achieved;
- e) the costs for the implementation of the internal control system to be lower than the benefits thereof;
- f) to be governed by the minimum management rules contained in the internal control management standards.

The internal control system management in any public entity works with a variety of methods, means and actions, provisions, concerning all the aspects from the activities of the entity, being set and implemented by the management in order to have a better control over the entity operations as a whole, and also over each activity / operation separately. The internal control management instruments can be classified into six main groups: objectives; means; informational system; organization; procedures; control.

Building a solid internal control system is a long process that requires significant efforts from all the staff of the entity and, particularly, from the management positions employees.

The activities of the internal control management are part of the management process and it’s focused on achieving the set objectives and include a wide range of policies and procedures concerning: the authorization and approval, the segregation of duties, the access to resources and documents, the verification, the reconciliation, the operation performance analysis, the operations processes, and activities review, supervision.

The strategy involves setting goals and organizational priorities (based on the forecasts of the external environment and the capabilities of the organization) and the designation of operational plans through which these objectives can be achieved.

The internal control management development strategy objective is to determine the main lines of action designed to further develop the internal control management system.

### **3. The internal control management development strategy**

#### **3.1. The current internal control management system in the public entities**

In accordance with art. 11 of GEO no. 86/2014 on the establishment of reorganization measures at central government level and on amending and supplementing certain acts, as amended and supplemented, approved by Law no. 174/2015, the internal control management systems activity is carried out by the Government.

On this line, it was established a specialized structure, namely, the Internal Control Management and Institutional Relations Direction (Staff) - DCIMRI having as primary responsibility the development and implementation of the internal control management system, the coordination and supervision through verification and methodological guidance for the implementation of the internal control management system.

The general objectives of DCIMRI are:

- (1) The development of the internal control management policy;
- (2) Methodological guidance and coordination of the internal control management;
- (3) Supervising the implementation of the internal control management in accordance with the regulatory framework.

DCIMRI developed OSGG no. 400/2015 on the approval of the internal management controller of public entities Code, published in Official Gazette no. 444/2015, which amended and supplemented the Order OMFP no. 946/2005 and had as the main effect the reduction of the number of internal control standards from 25 to 16 standards, according to the good practice of the European Union.

Furthermore, it was established as necessary to create a regulatory framework for the coordination activities, supervision and methodological guidance of the internal control management systems in the public entities run by DCIMRI.

Under these circumstances, in 2016, DCIMRI developed:

- OSGG no. 200/2016 amending and supplementing OSGG no. 400/2015 on approving the Internal Control Management for public entities Code;
- OSGG no. 201/2016 on approving the Methodological Norms on the coordination, methodological guidance and supervision of the implementation

status for the internal control management system development in public entities.

### **3.2. The SCIM implementation and development stage**

Romania, before finalizing the process of accession to the European Union adopted the international standards of the internal control through the Memorandum and subsequently created and strengthened through the developed legislation an implementation system for the internal control management (SCIM).

#### **Strong points in the implementation and development of SCIM:**

##### **1) The existence of the legal framework for the organization and functioning of SCIM in Romania based on the regulatory framework which consists of:**

- Law no. 174/2015 on approving the Government Emergency Ordinance no. 86/2014 regarding some measures to reorganize the central public administration and on amending certain laws;
- G.D. no. 463/2016 on the organization, functioning and the responsibilities of the General Secretariat of the Government;
- OSGG no. 400/2015 for approving the internal management Code of public entities, as amended and supplemented;
- OSGG no. 201/2016 approving the Methodological Norms on the coordination, methodological guidance and supervision of the implementation and the development status for the internal control management system in public entities.

**RESULT:** SCIM insurance policy in the central public entities, on the coordination, methodological guidance and supervision of the implementation and the development status for the internal control management system in public entities.

##### **2) The establishment and operation of the specialized structures, ensuring the performance of the implementation and development of SCIM, observed on quarterly and annual reports in accordance with OSGG no. 400/2015, as amended and supplemented,**

**RESULT:** ensuring the implementation and development of SCIM into the public entities.

##### **3) The introduction into the public entities culture from Romania of the principles of international standards of management and internal control;**

**RESULT:** the implementation of good practices on internal control management in public entities from Romania.

**4) Creating a system for assessing the stage of implementation and development of the internal control management in the public sector, conducted under OSGG no. 201/2016;**

**RESULT:** ensuring the real and accurate assessment of the SCIM implementation stage and development within the public entities, specialized structure within SGG, namely, the Internal Control Management and Inter-institutional Relations Direction (DCIMRI).

**5) The existence of a system for reporting the SCIM progress implementation in the public sector at a central level in Romania, under OSGG no. 400/2015, modified and supplemented;**

**RESULT:** assessing the achieved progress and the results in the implementation of SCIM by the general management and by the line management of the public entities.

**Weaknesses in the implementation and development of SCIM:**

**1) Insufficient understanding by the public entities leaders of the necessity and their responsibilities in the implementation and development of SCIM;**

**RESULT:** delays in implementing the internal control standards at some authorized loan officer/managers and the need for an increased inspection activity and methodological guidance from the specialized staff within DCIMRI for the awareness of the need and importance of internal control management approach to the public entities.

**2) Failure to establish in all the central public entities and especially in the subordinated public entities or in the coordination of specialized structures ensuring the performance of the implementation and development of SCIM, respectively the Monitoring Committee (MC) and the risks management team (EGR);**

**Consequences:** the failure of the methodological guidance and specialized assistance at the central level affecting the pace and the degree of the SCIM implementation in those public entities.

**3) The lack of uniform methodology for the nationally SCIM implementation;**

**RESULT:** uneven application of some working tools and significant differences in terms of institutional working mechanisms.

**4) Inadequate risk management within the entities by non-compliance with the requirements from Standard 8 - Risk management in most public entities;**

**RESULT:** Failure to establish or inoperative risk management teams in most public entities, the lack of risk registers and the failure to update it annually due to inadequate training of the persons responsible for the risk.

**5) The lack of a comprehensive regulatory framework for the activities of public entities, in accordance with Standard 9 - Procedures;**

**RESULT:** the failure to elaborate a procedure, in all cases, for developing the procedures into the public entity, the failure to complete all procedures for the work procedures and failure to update them annually.

**6) SCIM development programs failure on professional training for both management positions and also for the executive ones;**

**RESULT:** inadequate preparation in SCIM activity of the management and executive personnel, contributing in some cases to maintaining a low level of the SCIM implementation within public entities.

**3.3. The main actions regarding internal control management in the near future**

Internal control management development strategy pursues mainly the following objectives:

**a) The development of standard methodology for the implementation of SCIM nationwide, including:**

- The risk management methodology applicable to public institutions at central and local levels;
- The implementation of formalized procedures guide;
- The SCIM implementation manual;

**b) The development of some work tools with practical application, in order to simplify the implementation and development of SCIM, which include:**

- Developing an effective system of performance monitoring through relevant quantitative and qualitative indicators, including the economy, efficiency and effectiveness of each activity of the public entity;

- Improving the regulatory framework for a more effective risk management at all levels by developing working models for the risk identification, evaluation and updating in order to achieve the objectives set within the public entity;
- Developing a comprehensive procedural framework so the formalized procedures can become effective instruments of internal control for the purposes of smooth running activities in public entities;

**c) The implementation of best practices on the internal control management** by introducing specific SCIM tasks into the job descriptions of the staff from public entities;

**d) The coordination, methodological guidance and supervision of the implementation and development status of the internal control management system by verification missions and methodological guidance** into public entities:

- The evaluation of accuracy and progress and the results achieved in the implementation of SCIM by the general and line management of public entities.
- The SCIM implementation and development analysis under biannual and annual reports of the public entities in order to improve the SCIM policy.
- The performance tracking of the management control system development program of public entities, which includes objectives, actions, responsibilities, deadlines, and other measures necessary for its development, such as the development and implementation of formalized procedures on activities, professional development, risk management etc. .;
- Determining, for each compartment of the public entity structure, the objectives, activities, procedures, etc. ;

**e) The professional development of the SCIM involved personnel** through courses organized by the public authorized bodies.

## The Effects of the Recent Economic and Financial Crisis on the Romanian Economy

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**Abstract:** Recent economic and financial crisis has raised a new stock of questions to the economic policy makers regarding the framework definition of central bank activity. The aim of this paper is to explain how the economic and financial crisis has been influencing the monetary policies and what was the impact of changing the monetary variables and ISD on the Romanian economy. The different econometric models for Romania showed that after the crisis generated shock, the variations of foreign direct investments had an influence of over 10% on the domestic credit variations, while changing the interest rates had little influence in domestic credit variations, a possible explanation being the heterogeneous character of private credit. There was a clear long term causality relation between monetary mass need and real GDP, which is aligned with existing economic theory. Also, during the economic and financial crisis and shortly after it, the need for monetary mass had a slightly negative impact on the GDP, which can be explained by the fact that credit was used more for local consumption and less for investments that would generate economic growth.

**Keywords:** economic crisis, monetary policy interest rate, Foreign direct investment, monetary policy

**JEL Classification:** C51, C53

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## 1. Introduction

The development of economic policies, especially the monetary policies, has been deeply affected by the tsunami of the economic and financial crisis that started back in 2007. In Romania, the Governor of the Central Bank has structured those effects as both direct – a significant larger toxic active in the banking sector – and indirect – reduced liquidity and lower capital levels especially from foreign sources. For Romania, the indirect effects were resented as a descending trend in the volume and number of direct foreign investments, an increasingly growing of profits distribution to foreign mother companies, a higher volatility of exchange rate and a temporary loss of investors' appetite for developing markets.

Recent economic and financial crisis has raised a new stock of questions to the economic policy makers regarding the framework definition of central bank activity, including new aspects of macro-prudence and micro-prudence, inclusion of the financial stability reasons in the monetary policy, which proves the importance of this approach for all central banks.

A number of scientific research have been conducted in order to analyse and depict the operational instruments of the monetary policy both in the pre and post crisis time windows, of which we mention here: Bindsel (2016, p.3) who classifies those papers in four distinct categories: (1) official or semi-official papers, issues by banking institutions and attempting to explain how the monetary policies have been implemented by the central banks; (2) large comparative studies like Borio (1997) or even smaller, dedicated either to emergent, Asian, few central banks of even to a specific operational issue; (3) academic studies of certain aspects of the monetary policy; (4) messages from central bank governors or presidents (i.e. Bernanke, 2009 or Trichet J. C, 2009).

This paper is looking for an answer to the questions of how the economic and financial crisis has been influencing the monetary policies and what was the impact of changing the monetary variables and ISD on the Romanian economy. *The used methodology* for reaching the paper objectives involves econometric techniques with self-regression vectors (VAR), error correction vectors (VEC) that are often used in similar papers in order to highlight the hit response of different variables.

## 2. Literature review

A number of studies employing econometric techniques like autoregressive vectors (VAR) or Bayesian techniques (BVAR) shown the influence of monetary policy on the economy. Therefore, some studies employing VAR techniques (Hoke and Tuzcuoglu, 2016; Frank and Hesse, 2009; Čihák, Harjes, Stavrev 2009) shown a number of crisis effects on the interest rates and on the monetary policy transmission mechanism, like the negative effect of the interest rate shock on the monetary evolutions and industrial production (Hoke and Tuzcuoglu, 2016), the importance of the communication of changes in the monetary policy interest rates on the evolution of the interest rate and the positive effect on the stress in the monetary markets (Frank and Hesse, 2009), the weak signal transmission of the monetary policy interest rates on the market interest rates (which is explicable in the conditions where some monetary policy interest rates went down close to zero) and the inefficiency of this instrument in the first phase of the crisis (Čihák, Harjes, Stavrev, 2009).

Using VAR interacted panel data for 20 advanced economies Jannsen, Potjagailo and Wolters (2015) shown that: (1) in the crisis period the impact of the monetary policy on the real economy is powerful and faster, (2) that an expansionist monetary policy in the crisis period had positive effects on the inflation and the output generated in the acute crisis period, (3) that there are different efficiency levels depending upon the specific crisis period, (4) that in the crisis period the interest rate channel can be efficient even when the interest rate is going to zero, if the trust of population and economic agents is won.

Radu (2010) made use of both empirical analysis and VAR methods in order to show the influence of the monetary market interest rate variation to the level of debit and credit interest rates for population and non-banking economic agents, concluding that the inter-banks interest rate shocks are gradually transmitted to credit interest rates and that debit interest rate variations for population are closer related to inter-banks interest rates due to a higher motivation from the banks to preserve their margins. The 2008 economic and financial crisis had an effect of increased inter-banks interest rate volatility and weaken on the short term debit and credit interest rates for population.

Fung (2002) made use of panel VAR methodology for 7 East-Asian countries, concluded that this methodology is according to the theory in the pre-crisis period (n.a. the 1987 crisis), but for the crisis period it is not giving significant results according to the monetary theory. There is a hypothesis that the used VAR variables are not characteristic for 1987 Asian crisis.

Peersman (2011) made use of a structural VAR model for the period of time between 1999 and 2009, using monthly data for euro zone, aiming to identify the spikes created by the credit market, showing that by using nonconventional monetary policies there are drifts in the monetary basis as well as in the banks account balances. The comparison against the effects generated by the interest rate changes leads to the conclusion that the size of the impact due to those policies (increase in the monetary basis or of the central bank balance for a specific monetary policy interest rate) over the real economy is rather high, being comparable with the impact generated by a decrease of the monetary policy with 20 points of comparable with a 10% increase of the monetary policy. The results need to be careful considered due to the inclusion of both crisis and pre-crisis period.

Gelman et al (2016) made use of a VAR panel for 12 EMU countries, including Greece, argued that the countries situated at the periphery faced a reduction of foreign capital inflows in the crisis period, while the rest of the EMU countries met a relative constant level of foreign capital inflows and the response of the real economy and of the GDP was also significantly different. Even more, the analysis shown that the evolution of European Overnight Index Average was an important source of uncertainty for the private credit operators in the EMU periphery.

### **3. Presentation of the model results**

We empirically analyse the relation between monetary policy defined by different variables: real monetary need (M2\_SA), domestic credit (CREDIT), foreign direct investment inflow (ISD), monetary policy interest rate (RATA\_DOBANZII) and quarter GDP value (2010=100) (PIB\_SA). The data series are quarterly sampled and there are two time windows 1995Q1 to 2016Q1 and 2009Q1 to 2016Q1. Where season factors are detected, data has been normalized. For domestic credit, interest rate and direct foreign investments there was no need to normalize the data. For GDP (2010=100) and real monetary need the data

was adjusted by using Tramo-Seats method. The 1995Q1 to 2016Q1 data is first analysed. Table No 1 shows the correlation matrix for used variables.

**Table 1. Correlation matrix for 1995Q1 to 2016Q1 variables**

	CREDIT	FDI	M2_SA	GDP_SA	INTEREST RATE
CREDIT	1	0.296875	0.58872	0.608072	-0.627784
FDI	0.296875	1	0.238247	0.424085	-0.432726
M2_SA	0.58872	0.238247	1	0.956482	-0.90977
GDP_SA	0.608072	0.424085	0.956482	1	-0.956947
INTEREST RATE	-0.627784	-0.432726	-0.90977	-0.956947	1

Source: authors calculations

As the correlation matrix shows, GDP is strongly and positively correlated with real monetary need, and as strongly with the monetary policy interest rate but in opposite direction. The inverse correlation between GDP and interest rate is also confirmed by the economic theory. When the interest rate goes down the companies are stimulated to invest which directly increases the investments component of the GDP.

There is also a strong correlation between interest rate and the monetary need, but in negative direction. The monetary need is correlated with the transaction need. If there is a high need for transactions, there will be a high demand for money. The GDP can be translated as the household's income, that is saved or consumed. If the long term interest rate grows, then grows the appetite for saving, therefore the households will consume less and save more, therefore requesting less money, therefore the monetary need will be lower. Therefore, the negative correlation is perfectly explained by the economic theory. Also, the GDP is directly but with average intensity, correlated with the domestic credit. The rapid growth in the economy is a signal for financial instability. As the domestic credit grows, the internal consumption grows, therefore the GDP grows.

The unit root tests were executed on the series with non-seasonal factors (the ADF test was used). All series exhibited unit roots and different transformations were made in order to make them stationary: domestic credit rate calculus, foreign direct investments rate calculus, first diff for GDP, interest rate and monetary need.

While all data series are stationary, a VAR model was built. According to the majority of lag selection criteria, the optimal value for lag is 1. We therefore, estimate a VAR(1) for all variables with stationary made data series.

For proposed VAR(1) model, the errors are not correlated and homoscedastic until a lag value of 12. However, the distribution of the error is not normal according to Jarques-Bera test (the test results are available on request). As one can see from the estimations, an increase of GDP variation in a previous period had a positive effect over the domestic credit growth rate, but the growth of the domestic credit rate generated a lower GDP variation, in the sense that the many credits were given the economic growth slowed down. A possible explanation of this is that the named domestic credits were used less for investment and more for consumption. The variance decomposition of the credit rate is shown in Table 2.

**Table 2. The variance decomposition of the credit rate**

Period	Standard error	Credit rate	FDI rate	D_M2	D_GDP	D_interest
1	106.5146	100.0000	0.000000	0.000000	0.000000	0.000000
2	107.1225	98.88034	0.104119	0.715211	0.235177	0.065151
3	107.2056	98.73536	0.180631	0.774736	0.235328	0.073946
4	107.2141	98.72014	0.184635	0.784789	0.235442	0.074997
5	107.2158	98.71709	0.185399	0.786530	0.235847	0.075134
6	107.2162	98.71634	0.185525	0.786896	0.236089	0.075151
7	107.2164	98.71612	0.185551	0.786985	0.236195	0.075153
8	107.2164	98.71605	0.185557	0.787009	0.236235	0.075153
9	107.2164	98.71602	0.185558	0.787016	0.236250	0.075153
10	107.2164	98.71601	0.185559	0.787018	0.236255	0.075153

After a shock in the economy, the domestic credit rate variation is explained exclusively on the basis of changes for this variable. During the second period after the shock, 98,88% out of credit rate variation explains on the basis of changes for this variable and 10,41% on the basis of changes for the foreign direct investments rate. During next periods a significant reduction in the variation explained by credit rate at a 98,7% percentage.

We note a strongly positive reaction both for credit and monetary mass M2 during the first periods after the shock, followed by a gradual reduction of the impact until the 7<sup>th</sup> period, and even 10<sup>th</sup> period, which indicates a delay in the

absorption of a greater shock for monetary mass M2. However, the reaction of direct foreign investments and GDP is different, that is a significant reduction immediately after the shock, therefore a highly responsive reaction to interest rate changes.

We now estimate a VEC model for GDP and request for monetary mass, variables that co-integrated on the first order. The Johansen test identified a co-integration relation between the two variables both at 1% and 5% signification level.

The model is valid, the errors are non-correlated, homoscedastic and with normal distribution for a 5% signification level, according to the tests made. The C(1) coefficient is the correction factor for errors, that is, the adjustment to equilibrium speed. We take into consideration two causality types: short term and long term causality. On the long term, if C(1) coefficient is negative that means there is a long term causality from domestic credit to GDP. In our specific case, C(1) equals -0,047, which is a negative value. Therefore, there is a long term causality relation between monetary mass need and GDP in Romania, between 1995T1 and 2016T1. In other words, the growing need for monetary mass translates into a bigger GDP.

In order to confirm a short term causality relation we test if  $C(4)=0$  and  $C(5)=0$ . In order to do this, we apply the Wald test. The probabilities statistically linked to the Wald test are higher than 0.05 (see Table 4), therefore the coefficients are null from a statistical point of view, which implies that there is no causality relation on a short term between monetary mass need and real GDP.

The C(7) coefficient is positive which indicates the fact that there is no long term causality relation between monetary mass need and real GDP. We check also the short term causality relation by testing C(8) and C(9) coefficients, that statistically are not significantly different from 0. Therefore, there is no short term causality between the two variables.

**Table 3. The Wald test results for coefficients**

Null hypothesis	Test statistics	Prob.
$C(3)=0$	1.739026	0.187262
$C(6)=0$	0.932208	0.334290

Source: authors calculations

Therefore, we conclude that there is only a long term causality relation from monetary mass need to GDP in Romania between January 1996 and March 2016. On the long term, an increased need for monetary mass leads to growth in real GDP. We start again the model estimation for the after-crisis period, 2009T1 to 2016T1. The model is valid, the errors are non-correlated, homoscedastic and with normal distribution for a 5% significant level, according to the tests.

Also this time, there is a long term causality between monetary mass need and real GDP. Basis on the estimations, we conclude that an increase in the monetary mass need has a slightly negative influence in the GDP. Although there is a higher need for monetary mass, the GDP decreased. However, by increasing the GDP, the domestic credit increased also. This situation that contradicts the economic theory (the negative impact of the need for monetary mass over the domestic credit) is explained by the crisis vulnerable context, when the credits were less used for investments that generate economic growth and more used for consumption. This negative correlation has been previously identified also by Hagmayr and Haiss (2007) for 4 south-eastern EU countries, Haiss and Kichler (2009) which also identified an inverse relation between non-performant credits and GDP. Many explanations are possible:

- ✦ The potentially endogenous character of the private credit;
- ✦ The economic and financial crisis, Mehl et al. (2006) showing that the influence of the financial sector depends on the quality of the economic environment.

Therefore, the relation between monetary mass need and GDP is positive in the whole studied period and confirms the economic theory, but if the analysed timeframe is reduced to the after-crisis period we note the negative influence of the monetary mass need over the real GDP. In conclusion, the credits in the after-crisis period were not performing and did not sustained economic growth.

## 4. Conclusions

The global economic and financial crisis that was started back in 2007 by the subprime crisis in USA was resented with a 3-year delay in Romania, with a significant impact between 2010 and 2012, which lead to another delay in adopting response measure from NBR – comparing to other countries. More

than this, different from measures adopted by other central banks, the monetary policy interest rate in Romania recorded a slight increase, from 7.5% in 2007 to 10.3% in 2008 on an increased inflation background, and then in the next years the trend was reversed down to a minimum of 1.8% in December 2015, the minimum that maintained this level also in 2016.

Foreign direct investments recorded a decline in the crisis period, with a total amount of approx. 4 bln. RON between 2009 and 2010 comparing to 2008, which in turn had a direct influence on the variations of monetary policy interest rate. The negative impact of economic crisis over the foreign direct investments in Romania were highlighted also by Iloiu et al. (2015). In this context, there was a need to create special policies to increase the foreign direct investments, designed to improve the business environment and secure legal facilities for foreign investors, recommendations that were also considered by Kalotay (2017) for 11 EU countries.

The different econometric models that were considered showed that after the crisis generated shock, the variations of foreign direct investments had an influence of over 10% on the domestic credit variations, while changing the interest rates had little influence in domestic credit variations, a possible explanation being the heterogeneous character of private credit.

The econometric models also shown that there was a clear long term causality relation between monetary mass need and real GDP, which is aligned with existing economic theory. Also, during the economic and financial crisis and shortly after it, the need for monetary mass had a slightly negative impact on the GDP, which can be explained by the fact that credit was used more for local consumption and less for investments that would generate economic growth.

The undergone empirical research could be extended by considering a rather bigger number of macroeconomic variables. More than this, in future research, the analysis of the impact of the economic crisis on the relationship between Romania and its main foreign investors and as well the possible Brexit influence on the foreign direct investments should be considered. Due to the local social, economic and political context, high impact international changes – like the Brexit – might significantly affect local economy.

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# The Role of Foreign and Domestic Investment in Promoting Exports and Imports. A Dynamic Panel Approach

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**Abstract:** The goal of this paper is to evaluate whether domestic or foreign investments are involved in the promotion of exports and imports in eight of the newest European Union member states. We apply the dynamic panel data model for identifying the determinants of both exports and imports in the period 1999-2013. Our main result point that there is a complementary relationship between FDI and both exports and imports. The EU membership is significant for the expansion of the trade activity, but is more relevant for the export activity than for the import one.

**Keywords:** dynamic panel model, export, import, FDI, domestic investment

**JEL Classification:** C36, F14, F21

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## 1. Introduction

In this paper, we are interested in what measure foreign direct investments (FDI) and domestic capacity is enhancing both exports and imports. We conduct this investigation in the new European Union (EU) countries as these are the ones that must catch up with the old EU countries in terms of economic development. Given that FDI and domestic investments are, generally, enhancing exports, they

are useful tools for achieving this purpose. Kutan and Vuksic (2007) launch a similar proposition, being interested if FDI are attracted in these countries due to their specific effects that contribute to increasing exports or if the foreign activity mostly relies on the domestic investments for expanding the export supply capacity. The methodology used in this paper and its results allows us making several contributions to the researches carried out to date, as follows:

- ✦ We check if the export performance is assigned to FDI or to domestic investment, therefore we can assess if a public policy for attracting FDI is making sense;
- ✦ We check the role of multinational companies in the import activity of a country. There are three possible cases:

**Situation 1 (S1):** If imports are stimulated by the activity of multinationals, then we can assume that FDI in these countries are resource or strategic asset-seeking, seizing the low labour cost and other strategic assets that could be exploited. Such a hypothesis is strengthened especially if FDI also influences the export activity. In this case, it is possible that manufacturing goods are imported for being processed in the multinationals located in these countries and the new goods with higher value added are exported on larger or more developed markets.

**S2:** If FDI only stimulates the imports in a country and not the exports, then we can assume that our sample of countries is mainly chosen by multinationals for their large markets and the high level of revenues of their consumers.

**S3:** If FDI only contribute to increasing exports, then foreign investors locate here in seeking resources and strategic assets.

- ✦ The importance of EU adhesion in the foreign trade activity.

Usually, studies regarding FDI and its determinants assess the relationship between foreign investments and trade openness, measured as the GDP percentage of total imports and exports. Although trade openness is considered one of the main FDI determinants, there is no large evidence regarding the relationship between FDI and exports, respectively imports.

Studies on the export performance issued lately – among which the present paper could be included – assess if export increases are due to foreign or domestic investment. The results differ, of course, depending on the sample of countries

or the period of time taken into account. The present paper aims to establish the importance of domestic and foreign investment for promoting exports and imports in eight new EU countries in Central and Eastern Europe. The paper is structured as follows: the next section provides the main results in the literature regarding our subject of interest. Section 3 presents the data and the methodology used, while displaying and discussing results. In the last section of conclusions, we focus on the role of the multinational companies in the host economy, by analysing each of the three situations exposed above in the light of the results obtained.

## 2. Literature review

Leichenko and Erickson (1997) conduct a study on the US states' economies during 1980 to 1991. The authors refer both to the foreign and domestic investments (the new capital investment in each year) in order to discriminate among the effects of FDI and of investments respectively on exports. The authors explore the export performance for the manufacturing goods and, separately, for the food, chemical, metals, industrial machinery and electronics industries and the rest of the manufactured goods. All the independent variables are significant for the export performance in manufacturing, except for the new capital investments. The results vary as regards the sectoral division. FDI have a significant and positive role in increasing the exports of metals, industry machinery and electronics and other manufacturing and no impact on the export of food products or chemicals. The domestic investment appears as significant and positive only for enhancing exports of food products and other manufactured goods. Otherwise, the significance of the exchange rate varies, while only the level of exports in the previous years is significant for all the specifications of the model.

Table 1 comprises the description of the export functions used in the models of several authors that studied this theme.

Still a regional approach, this time for China, is employed by Zheng et al. (2004) with the same purpose of assessing the role of FDI on the export of domestic companies. There are analysed 29 provinces during 1985 to 1999. The study evaluates both the determinants of total exports and the ones of the indigenous firms only. All the dependent variables presented in Table 1 are found to be significant for exports, especially for the models incorporating the whole

provinces. The authors draw the attention that the impact of FDI is smaller on the export performance of the domestic firms as compared to the foreign ones, which has negative repercussions for the national competitiveness.

Wang et al. (2007) conduct a more comprehensive investigation on the role of FDI on the Chinese exports. They have a three-fold purpose: to establish what types of firms are more favoured by the presence of investments (foreign or domestic) regarding their exports, to assess the influence of the country of origin in this relationship as a precondition for the China's policy towards foreign investors and to determine whether domestic or foreign firms are more export-oriented. The results point to a significant impact of FDI on the whole exports and on both foreign and domestic companies, with no substantial difference as regards the foreign investor's country of origin. Moreover, the impact of FDI on exports is stronger for the goods intensive in labour than for the ones intensive in capital.

Kutan and Vuksic (2007) employ a pool model estimated through GLS on a sample of 8 new EU countries and 4 Southeast European countries, all of them transition economies. They find that FDI increase the supply capacity in all countries, while its specific effects are more significant in the EU countries. Therefore, exports are increased due to contributions of multinationals.

Vuksic (2006) follows a similar approach, in investigating the factors contributing to export performance. He relates to 14 CEE countries, both EU and non-EU, during 1993 to 2001. The author uses 4 specifications of the panel data model, in the table below being presented the most elaborated one. The role of FDI in promoting exports is higher in EU countries than in the rest of the sample. While there is a clear positive relationship between exports and the conditions on the export markets and a negative relationship between exports and REER in all specifications, the impact of domestic investment and trade liberalization is submitted to changes in sample and model specifications. Vural and Zortuk (2011) conduct a similar analysis for Turkey, using the technique of simultaneous equations. The authors certify for the positive and significant impact of FDI on the export performance, as well as for the negative influence given by the appreciation of the local currency and the increase of the domestic demand. The study covers a period of 27 years, from 1982 to 2009. For the developed countries, in the case of Camarero and Tamarit (2004), for 13 OECD countries (11 from the EU, US and Japan), the result is similar: FDI positively influences exports. The result is available for outward FDI also, when taken the whole sample of countries.

Depending on their size when taken individually, the authors also find negative relationship between exports and inward FDI, pointing to a substitutability relationship between them. The panel analysis is conducted on a quarterly basis, starting from 1981 until 1998.

Prasanna (2010) refines its analysis by considering the total manufacturing exports and the high-tech manufactured exports as dependent variables. The independent variables are the inward FDI and the manufacturing value added. The results are available for India during 1991-2007. While FDI is positive and significant in both equations, the added value is significant only for high-tech exports. The author draws the attention on the need for developing the local capabilities in order to properly reinforce the advantages brought by the foreign investments.

**Table 1. Description of the export functions used in the literature**

Authors	Equation
Kutan and Vuk-sic (2007)	Exports = {REER <sub>t</sub> , potential GDP <sub>t-1</sub> , trade liberalization index <sub>t</sub> , exports <sub>t-1</sub> , stock of FDI <sub>t-1</sub> }
Vuksic (2006)	Exports = {stock of FDI <sub>t-1</sub> , REER <sub>t</sub> , developments on export markets <sub>t</sub> <sup>*</sup> , domestic investment (gross fixed capital formation) <sub>t-1</sub> , trade liberalization index <sub>t</sub> } <sup>*</sup> variable constructed based on the GDP of developed European countries weighted with the share of each CEE country's exports to these economies.
Leichenko and Erickson (1997)	Exports = {FDI <sub>t-1</sub> , exports <sub>t-1</sub> , new capital investment <sub>t-1</sub> , exchange rate of US dollar <sub>t</sub> }
Zheng et al. (2004)	Exports = {FDI <sub>t-1</sub> , domestic investment <sub>t</sub> , labour employed <sub>t</sub> , quality of the workforce <sub>t</sub> , REER <sub>t</sub> }
Wang et al. (2007)	Exports = {exports <sub>t-1</sub> , FDI <sub>t-1</sub> , exchange rate <sub>t-1</sub> }
Vural and Zor-tuk (2011)	Export supply = {export prices relative to domestic prices, domestic demand, net inflows of FDI, exports, dummy <sup>*</sup> } <sup>*</sup> reflecting the start of accession negotiations to the EU
Camarero and Tamarit (2004)	Manufacturing exports = {foreign income <sub>t</sub> , relative prices <sub>t</sub> , inward FDI <sub>t</sub> , outward FDI <sub>t</sub> }
Prasanna (2010)	Exports = {FDI <sub>t-1</sub> , manufacturing value added <sub>t</sub> }

Source: authors' compilation

Another methodology for assessing the connection between FDI and trade is the use of Granger causality test. The causality analysis of Sharma and Kaur (2013) between FDI and the variables of trade (exports and imports) point to different results according to the country studied. FDI leads to increasing exports in China, while in India not only FDI contribute to promoting exports, but also exports attract new FDI.

Like FDI, imports could also represent a source of technology (Blyde, 2003).

Camarero and Tamarit (2004) check for the relationship between manufacturing imports and several independent variables: real income, relative prices for the imported goods, inward and outward FDI. Generally, imports and FDI are complementary, the substitutability relationship between imports and outward FDI (indicated by the negative sign for the FDI coefficient) being identified at country level, in some cases.

Sharma and Kaur (2013) test for a causality relationship between FDI and imports in China and India using the Granger causality test. The results are different according to the country investigated: while in China, FDI contributes to increasing imports and further improving exports, in India there is a bidirectional relationship between FDI and imports. Pacheco-Lopez (2005) also finds a bidirectional relationship between FDI and imports in the case of Mexico. Such a situation is explained by the need of foreign goods to be incorporated in the future exported goods and for answering the domestic demands, especially related to technology. Alguacil and Orts (2006) find a positive impact of FDI on imports, available for the case of Spain. The authors use a multivariate VAR model.

### **3. Methodology and results**

We base the construction of our empirical model on the examples provided above in the literature.

#### **3.1 Data**

We use the volume of exports (EX) expressed as percentage of GDP in the first model and the volume of imports (IM), also as a percentage of GDP, in the second model. We maintain the same independent variables in the two models. In order to proxy for the level of domestic investment, we use the gross fixed capital formation

(GFCF), while the foreign direct investment (FDI) volume relates to the foreign capital in the host country. Based on the literature, we also encompass the effect of prices and exchange rate by using the real effective exchange rate (REER). We add a dummy variable (DUM) for assessing the impact of the EU adhesion, which takes the value 1 if the country is an EU member state and 0 otherwise. The volume of exports, imports, FDI and GFCF are expressed as a percentage of GDP, while REER is an index expressed relative to 37 trading partners, with the value of 100 in 2005. The source for all data is Eurostat.

The descriptive statistics are presented in Table 2.

**Table 2. Descriptive statistics**

	EX	FDI	GFCF	IM	REER
Mean	51.89917	44.88405	24.97083	56.67583	104.4678
Maximum	93.80000	98.04618	38.40000	89.60000	134.2000
Minimum	24.10000	15.29572	16.40000	29.90000	68.09000
Std. Dev.	17.13859	21.06005	4.858543	14.93302	14.55637
Observations	120	120	120	120	120

Source: authors' computations

### 3.2 Model

Due to the data availability, our analysis is developed for the period 1999-2013 for eight countries in Central and Eastern Europe, members of the European Union: Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania and Slovakia.

We employ the dynamic panel data model, as provided in (1) due to the fact that the volume of exports or imports in country  $i$  at moment  $t$  is explained, besides other variables, by the level obtained in the previous period of time. We use two panel models, one for assessing the determinants of exports and the other for imports. We use the general panel model described by Hsiao (2006) for eight CEE countries  $i$ , with  $i = 1, \dots, N$  and with the time dimension  $t$ , where  $t = 1, \dots, T$ :

$$Y_{it} = \alpha Y_{it-1} + \beta_i X_{it}' + \varepsilon_{it} \quad (1)$$

$$\varepsilon_{it} = \mu_{it} + v_{it} \quad (2)$$

where  $Y_{it}$  is the dependent variable – in our case, the volume of exports or imports –,  $X_{it}$  is the vector of  $k$ -independent variables,  $\varepsilon_{it}$  is the error term composed from the specific effects  $\mu_{it}$  and the stochastic error term  $v_{it}$ . For avoiding the drawbacks of a simple OLS estimation, we use the approaches of Arellano and Bond (1991) who propose the use of the general method of moments (GMM) estimator and Blundell and Bond (1998).

### 3.3 Estimation results

According to the results of the stationary test provided in Table 3, our variables must be used in first difference.

**Table 3. Stationary test for variables**

		Levin, Lin & Chu	ADF - Fisher	PP - Fisher
EX	Level	3.47531	1.53669	0.76213
	First difference	-5.65079*	47.8458*	71.3001*
FDI	Level	3.59345	1.88602	0.51878
	First difference	-4.66540*	51.1101*	81.5008*
GFCF	Level	-2.31686***	15.9171	26.4106***
	First difference	-8.81640*	83.9379*	74.4548*
REER	Level	3.43252	2.13142	0.74665
	First difference	-5.31542*	51.1105*	76.4336*
IM	Level	2.24447	2.64762	1.65427
	First difference	-8.06070*	72.1269*	101.114*

Note: \*\*\*, \*\*, and \* denote significance of parameters at 1%, 5% and 10% respectively.

Source: authors' computations

For the first model, where the volume of exports expressed as percentage of GDP is the dependant variable, the results are presented in Table 4. We obtain the expected results for all the independent variables, except for the domestic investment (GFCF). Mainly, the capacity to attract foreign investments will provide higher amounts of exports in the next year, indicating that foreign companies located in the host countries are developing export activities. Therefore, a 1% increase in FDI will lead to a growth in exports of 0.28% in the next year. On

the other hand, the increase of the prices, reflected in a similar trend of REER, is able to completely cancel the increase provided by FDI, given that a 1% growth in REER decreases exports by 0.3%. The negative impact of REER on exports was expected, especially that our sample is comprising small and developing countries. The coefficient of GFCF is negative, contrary to expectations, but at the same time is insignificant for exports. Finally, we find that the EU adhesion had an important impact on the volume of exports, as the dummy variable is significant and positive.

**Table 4. Results for exports**

Independent variables	Coefficient	Std. Error	t-Statistic	Prob.
D(EX(-1))	0.090306	0.017736	5.091759	0.0000
D(FDI(-1))	0.282848	0.027498	10.28612	0.0000
D(REER)	-0.305605	0.035334	-8.648944	0.0000
D(GFCF)	-0.001756	0.045428	-0.038663	0.9692
DUM	1.085486	0.372346	2.915265	0.0045
Effects Specification				
Cross-section fixed (orthogonal deviations)				
Total panel (balanced) observations: 96				
J-statistic	65.67186			

Source: authors' computations

The results obtained in the second model, where imports are the dependent variable, are quite interesting (Table 5), given that there are few studies in the literature for making a comparison. The level of imports in the previous year has a negative impact on the present imports; that would be the case, for example, for goods imported to be used in the production of new goods (for example, in constructions), where intermediary goods are needed for a determined period of time. For consuming goods, it is reasonable to think that the same amount would be requested each year, unless these goods start to be produced in the host country. The positive and significant value of GFCF rather supports the first assumption, that imports are needed for building internal capacity. Moreover, the

coefficient of FDI has a positive sign, indicating a complementary relationship with imports, as in the case of Camarero and Tamarit (2004). It seems that the inflows of FDI also increase the volume of imports, having an impact almost similar with the one registered in the case of exports. This time, the dummy variable is no longer significant. This result expresses the need of imports for the sample of eight countries regardless the openness and the advantages that could be enhanced by the membership to an economic union.

**Table 5. Results for imports**

Independent variables	Coefficient	Std. Error	t-Statistic	Prob.
D(IM(-1))	-0.131971	0.004233	-31.17861	0.0000
D(FDI(-1))	0.273065	0.004135	66.03791	0.0000
D(REER)	-0.364723	0.001383	-263.7281	0.0000
D(GFCF)	1.028406	0.014461	71.11756	0.0000
DUM	0.953223	0.597217	1.596108	0.1139
Effects Specification				
Cross-section fixed (orthogonal deviations)				
Total panel (balanced) observations: 96				
J-statistic	72.57825			

Source: authors' computations

As regards the role of FDI on exports and imports, we are in the first situation exposed in the Introduction. Still, before drawing a clear-cut conclusion, we must carefully interpret the results. Really useful, in this case, would be to assess the main groups of goods imported and exported in these countries, for supporting the aspect we mentioned above. In general, the literature points to the advantages of Central and Eastern European countries as regard the cheap labour and educated work force. If this is true, then these countries should pay attention to the growing possibility of losing such advantages, because that would mean an important relocation of production of the multinational companies.

S2 is difficult to be supported, as our sample of countries is composed mostly from small countries in EU. Except for Poland, Romania and the Czech Republic, all the others have less than 7.5 million citizens as regards the population. Totally, the population of these countries represent 17.4% of the EU-27 population (in 2013). Moreover, in terms of economic development, the ranking according to the value of GDP per capita in PPS as percentage of the EU average places them in the half with the lowest values in 2013, according to Eurostat. The values range from 83% in the Czech Republic to 46% in Bulgaria, the lowest value in the EU. Therefore, they are not large, neither very developed countries, important enough for being sought by investors for their markets.

As regards S3, the countries analysed here are neither the most endowed with natural resources, which supports the need of ensuring supplies for the manufacturing process through imports. Instead, the most used resource is the human capital, due to its low cost for both the qualified and unqualified labour force.

#### **4. Conclusions**

In this paper, we assess the measure in which FDI and domestic investment promote exports and imports in several Central and Eastern EU countries. In this respect, we employ the dynamic panel data analysis firstly for explaining exports, then for assessing imports in the period 1999-2013.

The results obtained for the first model with exports as the dependent variable mostly confirm the results in the literature. The exports are positively influenced by the FDI attracted in the previous year, while the EU adhesion is also likely to enhance the volume of exports. We found no evidence of the impact of domestic investment on exports. As expected, there is a negative and significant relationship between REER and exports.

We obtain more interesting outcome for the second panel, where the volume of imports is the dependent variable, as there are fewer studies in the literature for performing a comparison with the previous results. Both foreign and domestic investments seem to positively influence imports, which could point to an important amount of intermediary goods' imports in these countries. The same conclusion is supported by the sign for the REER variable.

We found a complementary relationship between FDI and both exports and imports, in line with other studies in the literature (see, for example, Camarero and Tamarit, 2004). Also, the EU membership is more important for the export activity than for the import one. Sharma and Kaur (2013) suggest that such a relationship between exports and FDI is welcomed as it does not affect the export activity of the local companies; on the contrary, it improves the competitiveness of domestic industries.

Clearly, our results suggest a deeper approach on the issue regarding the foreign or domestic factors that supports exports and imports. A first direction would be to apply a similar analysis and methodology on the exports and imports in different sectors of activity, in order to see if the impact of foreign and domestic investment is similar.

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# Evolution of the Labor Market in Romanian Development Regions

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**Abstract:** In the context of economic transition, the labor market in Romania has undergone significant changes in the volume and structure of the main indicators of labor. After 1990, fewer inhabitants of Romania, due to the negative natural growth and massive emigration has resulted in reduction of the active population and employment in all eight development regions in Romania.

The paper analyzes the phenomenon of labor employment at regional level. In essence, they were followed two issues: public participation in economic and social areas and developments and structures active population. It also highlighted the differences and disparities between developing regions of Romania in the use of labor in order to identify conclusions that can improve regional development policies and enhancing effective action to fill labor resources available.

**Keywords:** *labor market, employed population, regional gaps*

**Classification JEL:** *J01, J43, J80*

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## 1. Introduction

The economic restructuring process succeeded to re-direct an important part of the old unemployed people of cities towards rural areas, but this for embracing a just subsistence agriculture. So, the high rural population here existent and

resulted, face to the large amount of arable land as available succeeds in their turn to make the agriculture predominant at least in the regional view and especially in the southern part of the country. There are, besides the increasing number of agricultural people, crumbled farmland resulted from the property reform and low agricultural technology assimilated that equally resulted into a significant productivity diminishing. And concomitantly to agricultural development in particular, regional economic structure and distribution of activities continuously adapted to realities like: natural resources availability, their local processing traditions, facilities of available technology and capital, price system and market mechanism, as also locally specific.

Last year, Romania was by far the top European Union member country regarding the percentage of agricultural farmers in total active population, i.e. the top decreasing order in this regard within EU28 was: Romania (25.4%), followed by Greece (13.0%) and Poland (11.2%).

It is general remark that the education level currently becomes increasingly important for the evolving structure of employed population, as previously a progress providing factor for the whole nation. When considering the same EU28 scale in 2014 for the education level of labour of 15-64 years old, the medium one was predominant, as 49%, that further meaning by sexes 50.3% for males and 47.3% for females in their separate totals. So that the higher education level came on the second position as such with 32.7%, that further meaning 29.8% for males and 36.2% for females, and lastly the low education level was the third with 18.3%, that meaning 19.9% for males and 16.5% for females.

As correspondingly in Romania, the National Institute of Statistics' (NIS) data equally show a predominant medium education level of labour, for 60.8% of males and 54.6% of females, followed by the higher education for 16.7% of employed males and for 22.3% of employed females.

## **2. Employed population's regional distribution in Romania**

In the 2008 year end the civil employed people in Romania were as high as 9259 thousands, then in the 2014 year end they were 8614 thousands that means a decrease of 645 thousands persons in six years. Table 1 shows the employed people's structure on inside developing regions.

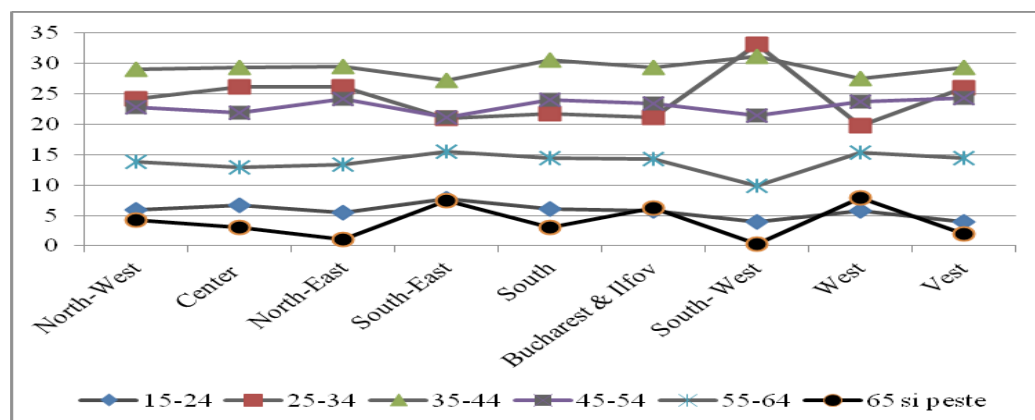
**Table 1 Employed people, by Romania's developing regions in 2008 and 2014 (% of total)**

Developing region	2008	2014
North-West	13.6	14.0
Center	12.0	11.2
North-East	14.3	15.1
South-East	12.1	11.8
South	13.7	13.4
Bucharest & Ilfov	14.6	14.2
South- West	9.9	12.1
West	9.8	10.1

Data source: *Romania's Yearbook 2009-2015 of the NIS*

Employment by age has a very differentiated territorial distribution as shown in Figure 1. As expected, the age groups 15-24 and 65 and over had the lowest share because in the first category many of them not completed their studies, and in the second most are retired.

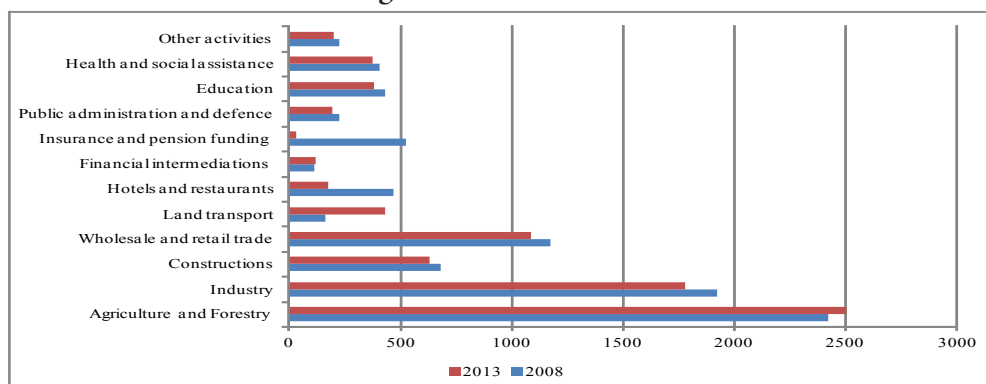
**Figure 1 Employment structure by age group in 2014**



Data source: *Romania's Yearbook 2015 of the NIS*

Not too much structural change in the regional labour's distribution in Romania during these five years to be noticed. But now seeing on the economic sectors, the same employed people's structure appears like in Figure 2, that recalls the above introductory idea about significance of agriculture and forestry in this respect, and this at the national scale viewed.

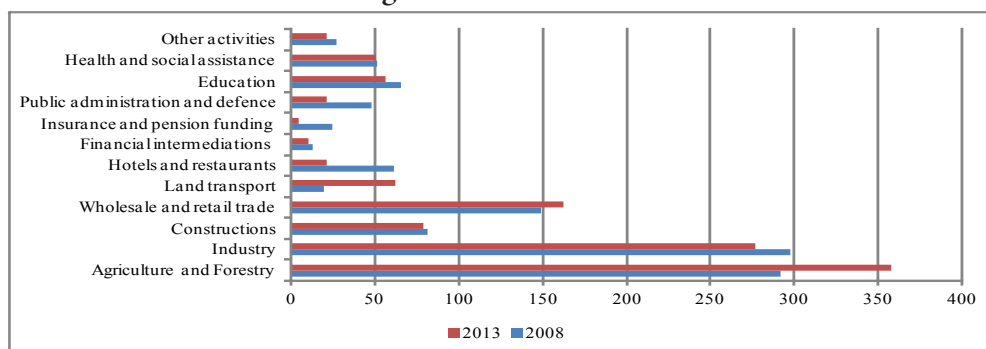
**Figure 2. Employed people, by economic sectors in Romania during the 2008-2014 interval**



Data source: Romania's Yearbook 2009-2015 of the NIS

In the 2008 year end, the North-West region's civil population employed was as high as 1187.9 thousands and in the 2014 year end 1170, namely a relatively constant number, but that is the lonely regional case; though, a case in which the activity structure of population significantly changed, as concomitantly (see in Figure 3).

**Figure 3: Employed people by economic sectors in the North-West region during the 2008-2014 interval**

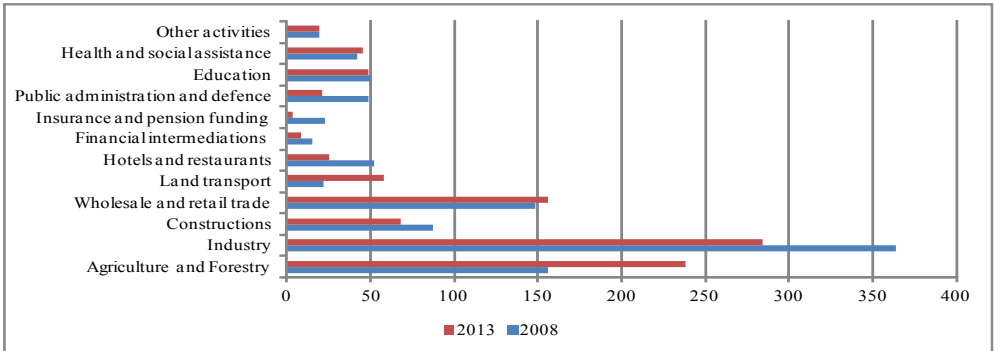


Data source: Romania's Yearbook 2009-2015 of the NIS

In the Center region, in the 2008 year end the civil population employed accounted 1046.5 thousands and in the 2014 year end 884 thousands, whereas the activity structure of this can be seen in Figure 4. This region is an example

of the industry predominance, in this regard, agriculture coming on the next position for people employed and this in the aftermath of an important growth of these years.

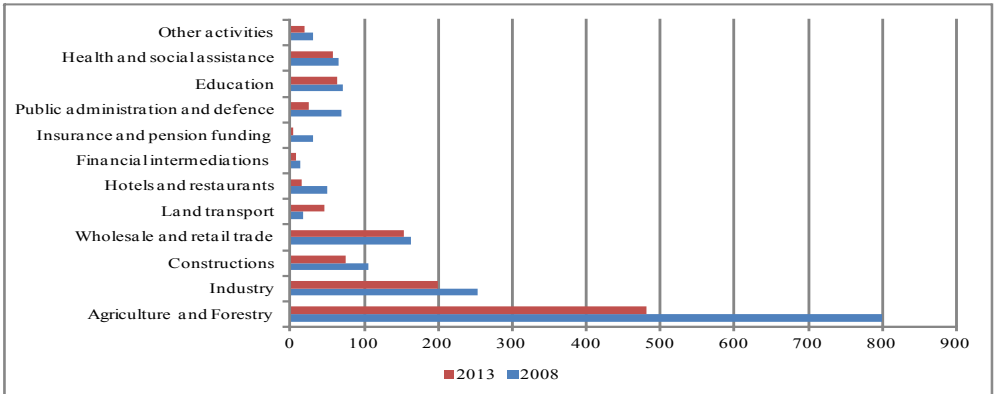
**Figure 4. Employed people by economic sectors in the Center region during the 2008-2014 interval**



Data source: Romania's Yearbook 2009-2015 of the NIS

Now in the North-East region, in the 2008 year end the civil population employed was 1248.9 thousands and in the 2014 year end 1203.7 thousands; the same populations were distributed on activity structure as in Figure 5. In this case, agriculture was predominant even in a significant declining trend.

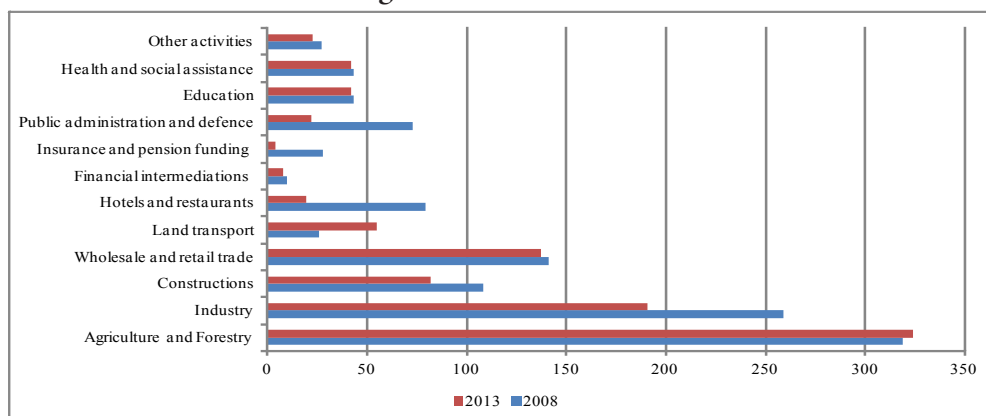
**Figure 5. Employed people by economic sectors in the North-East region during the 2008-2014 interval**



Data source: Romania's Yearbook 2009-2015 of the NIS

In the South-East region, in the 2008 year end the civil population employed was 1057.6 thousands and in the 2014 year end 946 thousands and the activity structure of population was in the same years as in Figure 6. Here, the industrial population dramatically lowered along this period.

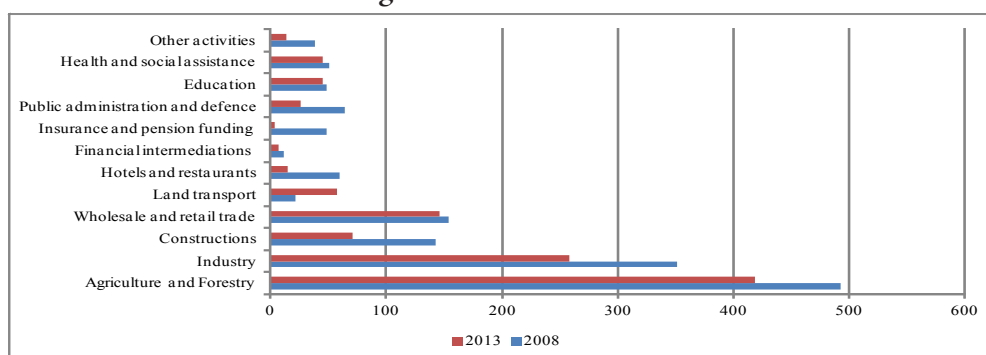
**Figure 6. Employed people by economic sectors in the South-East region during the 2008-2014 interval**



Data source: *Romania's Yearbook 2009-2015 of the NIS*

In the South (Muntenia) region, in the 2008 year end the civil population employed was 1201.0 thousands and in the 2014 year end 1168.8 thousands and the activity structure was distributing the same population as shown in Figure 7. Here both industry and agriculture were losing employment and agriculture was staying as majority during these five years.

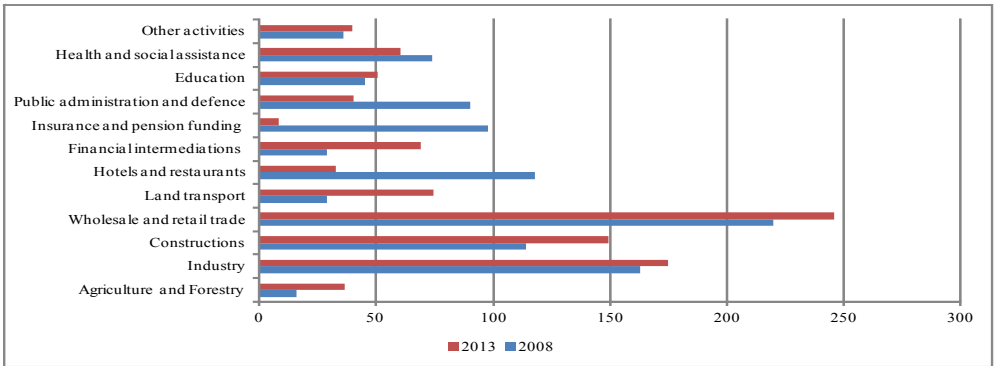
**Figure 7. Employed people by economic sectors in the South-Muntenia region during the 2008-2014 interval**



Data source: *Romania's Yearbook 2009-2015 of the NIS*

In the Bucharest & Ilfov region, in the 2008 year end, the civil population employed was 1,281.7 thousands and in the 2014 year end 1062 thousands and the activity structure of population was like in Figure 8 along the same period. This is a rather atypical region at the national scale, namely it is the lonely one with the services activity dominant.

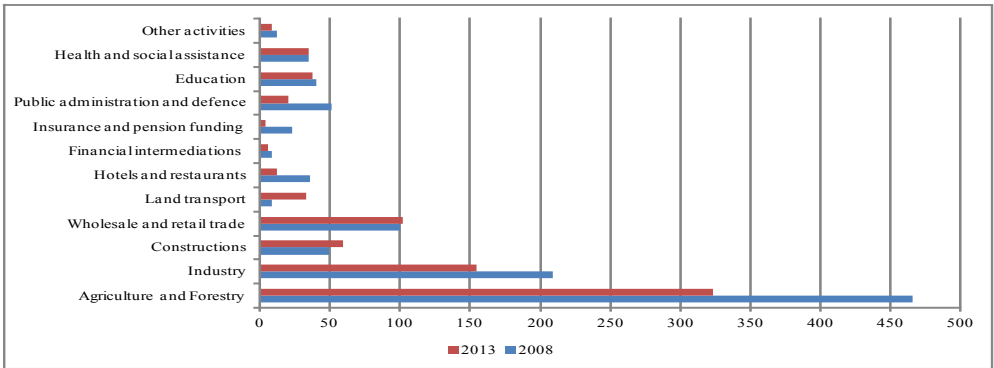
**Figure 8. Employed people by economic sectors in the Bucharest&Ilfov region during the 2008-2014 interval**



Data source: Romania's Yearbook 2009-2015 of the NIS

In the South-West Oltenia region, in the 2008 year end the civil population employed was 867.0 thousands and in the 2014 year end 832.0 thousands. The activity structure employed people distribution was so like in Figure 9. This is another region of dominant agriculture, despite this sector losing enough people employed.

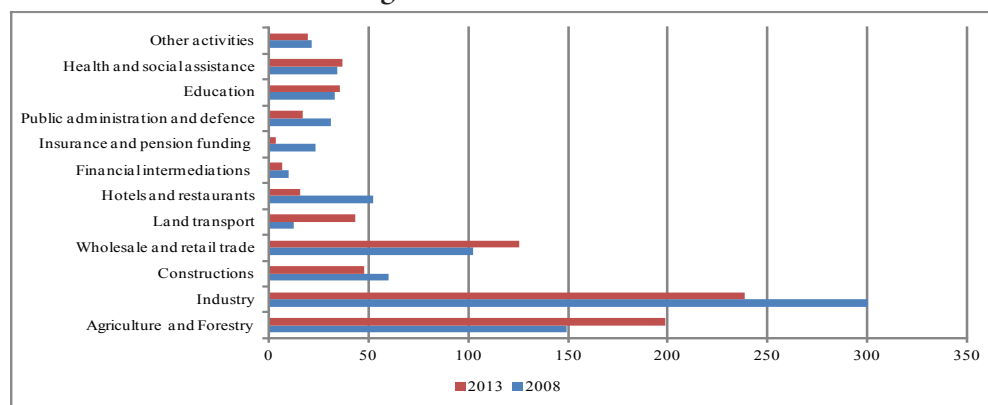
**Figure 9. Employed people by economic sectors in the South-West Oltenia region during the 2008-2014 interval**



Data source: Romania's Yearbook 2009-2015 of the NIS

In the West region, in the 2008 year end the civil population employed was 856.4 thousands and in the 2014 year end 767 thousands and its activity structure was as shown in Figure 10. The West region is the third one in the decreasing order in which agriculture doesn't hold the majority of its employed population. Despite this, the agricultural population is here significantly increasing along this period.

**Figure 10. Employed people by economic sectors in the West region during the 2008-2014 interval**



Data source: *Romania's Yearbook 2009-2015 of the NIS*

## Conclusions

Then, there is a list of conclusions of the above analysis:

- ✦ it is about an overall 645 thousands decrease of population employed in all Romania's economic sectors;
- ✦ only three regions, of the total of eight, in which people employed in agriculture aren't majority of total people employed;
- ✦ the Bucharest&Ilfov region is atypical nation-wide, i.e. trade is the highest in employed people structure, followed by industry and constructions.
- ✦ it is to see the total employed people of Romania diminishing at both the national scale and in rural areas. Overall, in 2014 the employment rate of the 15-64 years old people was 61.0%, namely 3.2% lower than the European average.

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## **The Connection between Foreign Direct Investment and Unemployment Rate in the United States**

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**Abstract:** Considering that foreign direct investment (FDI) is the principal mechanism for economic globalization, this study analyzes the relationship between FDI and unemployment rate in the US. A vector error correction model was built for checking the long-run and the short-term relationship between FDI inflows and the absolute variation of unemployment rate in the current period compared to previous period. The quarterly data covered the period from 2000 to 2016. The empirical findings showed that only on long-run the changes in the US unemployment rate influenced the FDI. There was not any short-run relationship between FDI and variation in unemployment rate. The macroeconomic policies for attracting FDI in the US should take into account that the foreign investors are sensitive on long-term to the shocks in the unemployment rate.

**Keywords:** unemployment rate, FDI, vector error correction model, cointegration

**JEL Classification:** C51, C53

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## **Introduction**

Foreign Direct Investment is considered the main mechanism for the economic globalisation. In this context, the main aim of this paper is to analyze the role of FDI in creating jobs for reducing the unemployment rate in the US. Moreover, we will check if the unemployment rate is considered an important economic indicator for foreign investors in selecting US as destination country for their investment.

The unemployment rate is one of the key macroeconomic variables, a lower value being preferred for this indicator. In the United States of America, the causes and measures of unemployment have been deeply analyzed. Strategies to diminish the unemployment rate were proposed throughout time. Demographic factors, education, overall concurrence, economic conditions and automatic are factors that directly affect the unemployment and the job creation.

In USA, the unemployment rate increased fast from 5% at the end of 2007 to a maximum of 10% in October 2009. This measure does not include the people that are outside the workforce, because the results are distort if many of these people stop to look for a job.

A vector error correction model was estimated for studying the long-run and the short-run relationships between unemployment rate variation and FDI in the US. The empirical results indicated that there was only a long-run relationship from unemployment rate to FDI. The economic policies in the US for attracting FDI inflows in the US should consider this aspect that the variations in unemployment rate are an important determinant of FDI.

After this short introduction, a literature review was summarized. The empirical analysis consists in the estimation of the VEC model. In the end, some conclusions are drawn.

### **1. Literature review**

The literature review will focus on the econometric techniques for analyzing the evolution of the unemployment rate. The existence of nonlinearity in the unemployment rate data for USA makes the unemployment rate forecasts based

on nonparametric method to be better than many other linear models for monthly and quarterly data, as Golan and Perloff (2004) showed.

Most of the macroeconomic series, including the data sets for unemployment rate, need first differencing for becoming stationary (Nelson and Plosser, 1982). Since the publication of this paper, many studies were dedicated to the stationarity properties of macroeconomic time series. For USA economy, comparisons between natural rate and hysteresis assumption were made by many researchers (Song and Wu, 1997; León-Ledesma, 2002; Cheng et al., 2012). These analyses provided mixed evidence regarding the fluctuations' nature in USA unemployment rates. Payne et al. showed, using augmented Dickey and Fuller (ADF) test, that all state unemployment rates are non-stationary (Payne et al., 1999).

León-Ledesma applied the panel unit root test of Im et al. to check for unemployment hysteresis in the US countries and the EU states, against the alternative hypothesis of a natural rate (León-Ledesma, 2002; Im et al., 2003). The most suitable assumptions were: natural rate for the USA countries and hysteresis for EU members.

Clemente et al. provided empirical results for the rejection of the unit root existence. This result is dependent by the data level of aggregation (Clemente et al., 2005). The stochastic character of unemployment rate was checked by Cheng et al. under the assumption of cross-sectional dependence on a panel of USA countries for level data (Cheng et al., 2012). If the data of the economic recession are included, the authors obtained a significant evidence for the existence of a non-stationary common component.

Cover and Mallick show the existence of unit roots in unemployment rate series for USA using ADF and the Phillips–Perron (PP) tests (Cover and Mallick, 2012). This result is also obtained by stronger unit root tests like that of Elliott et al. (ERS) and that of Kwiatkowski et al. (KPSS) (Elliott et al., 1996; Kwiatkowski et al., 1992).

Many studies in literature analyzed the variance between USA countries unemployment rates. For example, Partridge and Rickman find that unemployment between USA countries is quite persistent because of local political and economic factors that affect state behavior (Partridge and Rickman, 1997).

These effects include a large variety of factors, like regional, industrial, demographic and non-demographic ones. Payne et al. utilized bivariate Engle-Granger cointegration tests to show that cointegration between an USA country and national unemployment rates was detected in 2 out of 50 cases (Payne et al., 1999). The unemployment persistence was analyzed using fractionally integrated (ARFIMA) models by Gil-Alana (Gil-Alana, 2002).

Conley and Topa obtained a statistically significant and positive degree of spatial dependence in the raw unemployment rates repartition (Conley and Topa, 2002). Nistor identified asymmetries across countries in unemployment behavior (Nistor, 2009).

Havet and Penot found little support for Oswald's hypothesis (Havet and Penot, 2010). This is validated in the study of Farber who made an analysis of the USA labour market for the period starting with the Great Recession (Ferber, 2012). There was no evidence that unemployed mobility was diminished by housing market crisis.

Blanchflower and Oswald used panel data for USA countries to investigate the relationship between homeownership and unemployment (Blanchflower and Oswald, 2013). The high levels of homeownership have the tendency to destroy jobs with a lag of only one year.

The non-linearities in unemployment rate data series were modeled using: Markow-switching model employed by Bianchi and Zoega, non-linear fractional integration background of Caporale and Gil-Alana and Smooth Transition Autoregressive (STAR) models used by Skalin and Teräsvirta (Bianchi and Zoega, 1998; Caporale and Gil-Alana, 2006; Skalin and Teräsvirta, 2002). A procedure to identify breaks was proposed by Gil-Alana in order to consider for non-linear structures (Gil-Alana, 2007).

## **2. Econometric models for monthly unemployment rate in USA**

In the context of the recent economic crisis, the unemployment rate has faster increased in USA. These high fluctuations in the unemployment might have a significant impact on FDI. Two macroeconomic variables are considered in this research: FDI inflows (million dollars, comparable prices, 2000=100) and unemployment rate. The data have quarterly frequency. The period of analysis is

2000: Q1- 2016: Q4. The maximum value of unemployment rate was registered in October 2009 (10%). Since this moment it decreased very slow, arriving at 5.1% in August 2015. This value was registered at the beginning of the crisis in March 2008. The data are provided by U.S. Bureau of Labor Statistics. The quarterly unemployment rate was computed using the monthly data and taking the value at the end of each quarter.

First of all, the unit roots presence is detected using Augmented Dickey-Fuller test in all variant (model with trend and intercept, model with intercept and model without trend and intercept).

**Figure. 1. Monthly unemployment rate in USA (1948:Q1-2016:Q4)**



Source: U.S. Bureau of Labor Statistics

The results in Table 1 indicated that FDI data series is integrated of order 1 ( $I(1)$ ) while unemployment rate is integrated of order two ( $I(2)$ ) at 5% level of significance. A data series being integrated of order 2, the ARDL (autoregressive distributed lag) approach cannot be applied.

**Table 1. Augmented Dickey-Fuller test for transformed data series of inflation and unemployment rate**

Variable	Model	ADF statistic		Critical values
Unemployment rate in second difference	Model with trend and intercept	-4.874649	1% Critical Value	-4.1083
			5% Critical Value	-3.4812
			10% Critical Value	-3.1682
	Model with intercept	-4.917778	1% Critical Value	-3.5362
			5% Critical Value	-2.9077
			10% Critical Value	-2.5911
	Model without trend and intercept	-4.956155	1% Critical Value	-2.5994
			5% Critical Value	-1.9456
			10% Critical Value	-1.6185
FDI in first difference	Model with trend and intercept	-4.167600	1% Critical Value	-4.1059
			5% Critical Value	-3.4801
			10% Critical Value	-3.1675
	Model with intercept	-3.352728	1% Critical Value	-3.5345
			5% Critical Value	-2.9069
			10% Critical Value	-2.5907
	Model without trend and intercept	-6.566349	1% Critical Value	-2.5994
			5% Critical Value	-1.9456
			10% Critical Value	-1.6185

According to lag length criteria, the optimal lag for the relationship between FDI and the absolute variation of the unemployment rate is 1. This result will be used when applying the cointegration test.

**Table 2. Selection of optimal lag**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-825.8166	NA	3.30E+09	27.59389	27.66370	27.62119
1	-807.3896	35.01125*	2.04E+09*	27.11299*	27.32242*	27.19491*
2	-805.1901	4.032337	2.17E+09	27.17300	27.52206	27.30954
3	-803.7994	2.456952	2.37E+09	27.25998	27.74866	27.45113
4	-802.8720	1.576629	2.63E+09	27.36240	27.99070	27.60816
5	-798.4831	7.168513	2.61E+09	27.34944	28.11736	27.64981
6	-796.6765	2.830319	2.82E+09	27.42255	28.33010	27.77754
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: authors' calculations

The Johansen cointegration test will be applied when the lag is 1. The variables are denoted by FDI and D1\_U, which represents the unemployment rate in first difference. The trace test and the maximum eigenvalue test indicated that at least one cointegration relationship might exist between quarterly FDI and the variation in unemployment rate in the US.

**Table 3. The results of Johansen cointegration test**

Data Trend:	None	None	Linear	Linear	Quadratic
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept
No. of CEs	No Trend	No Trend	No Trend	Trend	Trend
Selected (5% level) Number of Cointegrating Relations by Model (columns)					
Trace	0	1	2	1	2
Max-Eig	0	1	2	1	2

Source: authors' calculations

A vector error correction model is estimated for FDI and the variation in unemployment rate:

$$D(D1\_U) = C(1)*(D1\_U(-1) + 0.0002192432724*FDI(-1) - 45.37489341) + C(2)*D(D1\_U(-1)) + C(3)*D(FDI(-1)) + C(4) \quad (1)$$

$$D(FDI) = C(5)*(D1\_U(-1) + 0.0002192432724*FDI(-1) - 45.37489341) + C(6)*D(D1\_U(-1)) + C(7)*D(FDI(-1)) + C(8) \quad (2)$$

If the coefficients  $C(1)$  and  $C(5)$  are negative, then a long-run relationship between the two variables is confirmed. If  $C(3)$  and  $C(6)$  are different from 0 from statistical point of view, a short-run relationship between variables is identified.

$$D(D1\_U) = 0.002225841536*(D1\_U(-1) + 0.0002192432724*FDI(-1) - 45.37489341) - 0.3945037082*D(D1\_U(-1)) - 1.142524135e-07*D(FDI(-1)) - 0.0001891365808 \quad (3)$$

$$D(FDI) = -3096.690581*(D1\_U(-1) + 0.0002192432724*FDI(-1) - 45.37489341) + 5070.275888*D(D1\_U(-1)) - 0.02776565192*D(FDI(-1)) + 1710.165153 \quad (4)$$

$C(1)$  is positive and then, there is not a long-run causality from FDI to variation in the unemployment rate. However,  $C(5)$  is negative and a long-run causal relationship was detected from unemployment variation to FDI. In economic terms, on long-run, the foreign investors are influenced by the unemployment rate fluctuations in the US when they decide to invest in this country. On the other hand, on long-term, the FDI had not had a significant impact on unemployment rate in the US.

The Wald test is applied to check if the other coefficients ( $C(3)$  and  $C(6)$ ) are statistically significant.

**Table 4. The results of Wald test**

Null Hypothesis:	$C(3)=0, C(6)=0$		
Chi-square	0.041263	Probability	0.979580

Source: authors' calculations

The probability associated to chi-square statistic is higher than 0.05. Therefore, there is not any short-run relationship between FDI and fluctuations in unemployment rate in the US at 5% level of significance.

## Conclusions

The unemployment rate evolution in USA is carefully followed by American Administration in order to propose suitable strategies for reducing unemployment. In this paper, we checked if FDI could explain the variations in the unemployment rate.

A vector error correction model was estimated for studying the long-run and the short-run relationships between unemployment rate variation and FDI in the US. The empirical results indicated that there was only a long-run relationship from unemployment rate to FDI. The economic policies in the US for attracting FDI inflows in the US should consider this aspect that the variations in unemployment rate are an important determinant of FDI.

The research is limited by the fact that other variables were not introduced in the VEC model. In a future research, variables like inflation rate and GDP rate will be introduced.

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## Proposal of “Lex Ferenda” in Reference to the Punishment of Life Imprisonment

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**Abstract:** According to the article 56 of the Romanian Criminal Code, “life imprisonment” is defined as the deprivation of liberty for an unlimited period of time and is executed according to the Law that governs the enforcement of punishments

In the event that the national legislation allows for a re-examination of the life imprisonment sentence of a convict to a jail time or to allow for a parole, we believe that the requirements of the European Convention of Human Rights are fulfilled. (case Trabelsi vs. Belgium, Decision from 4<sup>th</sup> of September 2014).

With respect to the enforcement of the life imprisonment sentence, in a few European countries there are particular provisions by the Law (Croatia, Norway, Slovenia), but in Portugal it's banned by the Constitution; in Belgium, the life imprisonment sentence is defined as a sanction for the rest of the life, while in Cyprus there is no option for parole since the Law doesn't allow it, but it can be affected only by presidential pardon.

**Keywords:** Penal Code, life imprisonment, changes to legal framework, female inmates, minors convicts

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The punishment can be defined in various ways, in reference to the perspective of analysis. From the Criminal Law point of view, the punishment defines the means of constraint and authority, including the motivation for the use of superior forms of coercion, enforced by the Government in order to counterbalance for the damages perpetrated to the citizen or entities, as a result of the crimes, and in order to re-instate the rule of law, by warning the possible perpetrators and by offering the possibility to the official entities to re-socialize and re-educate the convicts to live by the fundamental values and principles of a democratic society.<sup>1</sup>

The punishments in the Romanian Criminal Code,<sup>2</sup> are distinguished in main punishments, accessory and complementary, but the “main punishments” play the dominant role in the chain of constraint.

According to the article 53 of the Criminal Code, the main punishments are tabulated as life imprisonment, jail time and fine.

The life imprisonment is defined as the deprivation of liberty for an unlimited period of time and is executed according to the Law that governs the enforcement of punishments

The life imprisonment has replaced the death penalty, introduced to our legislation by the previous Criminal Code<sup>3</sup> as an exceptional measure, with the objective to sanction a very limited number of outrageous and brutal crimes in order to protect the most valuable social assets.

The Criminal Code rules in the article 56 that the punishment of “life imprisonment” is the most harsh of the three main punishments, hence the order in which they are listed shows the progressive downsizing soberness of the punishment’s sternness, so the “jail time” and “fine” being differentiated by nature, time frame and less strict ways of enforcement, hence the “life imprisonment” punishment being considered the most coercive from our penal legislation.

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1 Ilie Pascu and colectiv, New Criminal Code with comments, General part, Edition a II-a, Publisher Universal Juridic, Bucharest 2014

2 Romanian Criminal Code of 01.02.2014

3 Romanian Criminal Code of 1969

The “life imprisonment” or long term sentences were adopted by the most of the European criminal codes, except the “death penalty”; Belgian, French, German, Portuguese or Dutch Criminal codes have such regulations.

In regard to the “life imprisonment” punishment, several European countries do not have such provisions (Croatia, Norway, Slovenia), and in Portugal it’s banned by the Constitution. In Belgium, the sentence implies that the individual will be incarcerated for his/her life duration and in Cyprus, there’s no possibility for release since they don’t have a system of “parole” for this type of punishment, the only option will be the presidential pardon. In the United Kingdom, the “life imprisonment” sentence doesn’t allow a parole procedure, but after fulfilling 15 years from the sentence, the convict is able to get a “furlough”. On the other hand, in Poland the sentence of “life imprisonment” is enforced only to very serious crimes and the minors are exempt from such punishment, but allows a step-by-step procedure to a semi-imprisonment regime and eventual “parole” if at least 25 years have been served.<sup>4</sup>

The Romanian Criminal Code rules at article 57 that the “life imprisonment” sentence will not be enforced to the convict that has 65 years of age on the date of the sentence, hence he/she will serve only 30 years from the sentence and some rights will be banned during its maximum length.

The Romanian Criminal Code states: «in the event that the convict that receives a “life imprisonment” sentence will have 65 years of age while serving the sentence, the “life imprisonment” punishment can be changed to 30 years imprisonment and the additionally some rights will be banned during its maximum length, if the convict have shown a good behavior while serving the sentence, have managed to fulfill all civil obligations established in the sentence, except if he/she can prove that didn’t have the means to complete them and made constant and obvious results in order to be integrated in the society».<sup>5</sup>

The lawmaker gives the option to the court to rule, according to the particularities of the conduct shown by the convict, if he/she is worthy of such over-ruling, hence the change of sentence is not mandatory, as is the case when the “life imprisonment” punishment is not applicable.

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4 Ibidem 1, pag. 386

5 Art. 58 current Romanian Criminal Code

The dilution of the deterrent character of the “life imprisonment” punishment led to the decision to change it to regular jail time, giving so the hope to the convict that after a period of time, if he/she obeys the rules and makes serious progresses toward the re-habilitation, he/she will be free as a senior citizen. This ruling is applied in the favor of both male and female convicts.

In the light of the current legislation, a basis for reflection at scientific level could be as a proposal for “lex ferenda” the necessity to establish punishments in the Romanian legislation not only in reference to the age of the offender but also in reference to certain categories of perpetrators.

In accordance with the European Court of Human Rights ruling, issued on 24<sup>th</sup> of January 2017, in the case of Khamtokhu and Aksenchik vs. Russia:

„The Court have established that the justification of a differentiated treatment of the the two plaintiffs in comparison with other offenders, with the sole purpose of promoting the principles of justice and humanity, it was legitimate.” Also, it was found that by deviating certain categories from the punishment of “life imprisonment” is proportional in regard of these principles. In order to reach such conclusion, the Court have studied the practical mechanism of the “life imprisonment” punishment in Russia, from the execution point of view, but also from the possibility of an appeal.<sup>6</sup>

In this particular case, the convictions to “life imprisonment” ruled for the two plaintiffs were not arbitrary or excessive and can be review after 25 years. More, the Court have took in consideration the high tolerance given to the countries to rule over its own penal policies, because there’s no European consensus in this matter, except the opinion that no minor should be punished to “life imprisonment”. It’s true that it would be difficult to criticize the Russian law makers for excluding certain groups of perpetrators from the “life imprisonment” punishment, which can be seen in fact as, if we judge on the basis of previously stated principles, a progress in the criminal legislation

So, in accordance to the Court’s decision, any state can include in its legislation, in the most legitimate way, easier penal sanctions for certain categories of individuals, because this is a “progressive social” approach to the penal law.

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6 Request no. 60367/08 si 961/11

In fact, the two mentioned plaintiffs have complaint to the European Court of Human Rights, that, the first of 25 years or age, and the second, of 30 years of age, have been unrightfully sentenced to “life imprisonment” after killing a police officer, claiming that the current Russian Criminal Code is discriminatory since it rules that women, minors, and men over 65 years of age can’t be sentenced to “life imprisonment”.<sup>7</sup>

We should notice also that certain countries have specific punishments for offenders with an age of 60 to 65, while others have “decided to exclude women which were pregnant at the moment of the perpetration of the crime or at sentencing” from “life imprisonment”, and a group of countries, which includes Russia, have a more lenient approach towards all women, which are excluded”, as the ECHR concludes.

Of course, there were opponent opinions amongst the 17 judges of the Court, in particular Sajó, Nußberger, Turković and Mits. The judges Sicilianos, Møse, Lubarda, Mourou-Vikström, and Kucsko-Stadlmayer had a separate common opinion; so did judge Pinto de Albuquerque, who wrote a separate opinion too. All these are included in the annex.

Following the outlines of this ruling, a national study for the Romanian penal legislation can be initiated on the issue of the “life imprisonment” punishment, in order to change the article 57 of the current Criminal Code, with the following text: @If on the day of the sentence, the defendant had the age of 65 years or the defendant is a female, instead of the “life imprisonment” punishment, a 30 year sentence will be imposed and some rights will be banned during its maximum length”.

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5. [www.echr.coe.int](http://www.echr.coe.int)

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<sup>7</sup> [www.echr.coe.int](http://www.echr.coe.int)

## The Management of Businesses through Information Systems

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**Abstract:** The paper presents ways to manage businesses through information systems that can store data into databases and makes possible the creation of complex queries which will help managers to make an appropriate decision based on facts that express the business environment. Unlike conventional systems based on files for automatic data processing, information stored in databases so that data is not duplicated. However, sometimes, to achieve high performance in terms of response time is accepting some redundancy data. Sharing data refers not only to the aspect of ensuring multiple users access the same data, but also the opportunity to develop applications without modifying the database structure. Sharing problems arise at a higher level for DBMS enabling networking sites. An information system for business that is based on databases can resolve the issues of manipulation of large quantities of data that are provided from different departments such as supply, production, accounting, marketing and other areas. Based on these data can be built complex reports that allow the managers to create different scenarios with various inputs and multiple outputs on which decisions may be taken. Analysis and complex queries are provided by tools that extract certain amount of data in specific periods of time and so it is possible to create forecasts and scenarios that make the process of decision more efficient.

**Keywords:** Management information systems, business model, data warehouse star model, SQL queries and reports, economical analysis.

**JEL Classification:** C23, C26, C38, C55, C81, C87

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## 1. Introduction

Management information system provides, obtains and provides information requested by the user using IT means, to base decisions on a specific area within the company. Current management systems are integrated. They are characterized by the principle of introducing multiple unique data and processing them according to the needs of specific customer information. System information integrated for accounting is characterized by placing unique data taken from primary documents that maintains a unique database of accounting which will subsequently be exploited in ensuring the specific work of financial accounting and those specific management accounting responding thus processing requirements of all users. A system is a set of elements (components) interdependent between establishing a dynamic interaction based on pre-established rules in order to achieve a certain objective. Dynamic interaction between elements materializes flows established between these flows involving existing resources.

Systemic work in the field led to the definition of a model that promotes systemic vision of the undertaking which it considers consists of three subsystems:

- decision subsystem leverages information provided by the information subsystem in decision making.
- subsystem information plays a double role: on the one hand provide all information necessary to make decisions on all levels of responsibility, management and control on the other hand provides communication channels between other subsystems, since decisions made by subsystem manager are transmitted makers execution by information subsystem (down stream).
- subsystem operation (within which carries economic processes specific to the activity of the economic entity) occurs collect data which are then transmitted information subsystem (upstream) for storage and processing of data required to obtain the information used in decision making at subsystem level decision (driving).

Subsystem requires specific information necessary to support decision-making on the part of strategic decisions and on the other tactical and operational decisions.

ERP (Enterprise Resource Planning) is a set of interrelated information subsystems for human resource management, material and financial resources of

a company or public institution. ERP systems are open systems that works closely with corporate partners (customers, suppliers, public institutions, financial-banking etc.) [1], [5].

## **2. The attributes of information systems and the design of components**

Management systems are based on the information and its support or are defining by the starting at the function management information system to be achieved. In the first case, management information systems means all information used within the company, means and procedures for identification, collection, storage and processing of information. In the second approach to define management information systems starting from its purpose, namely providing information requested by the user to the desired form and at the right time to base decisions. Management information systems involve defining: management areas, data, models, rules management.

Management areas corresponding to each of the activities carried out within the firm homogeneous, commercial, manufacturing, personnel, financial accounting - taking into account the interactions between them. Moreover, addressing these areas is done in a hierarchical vision leading to identification of the following levels:

- Transaction in which operations are performed Elementary;
- Operational home of the current operations, decisions are taken at this level current of routine;
- Tactical corresponding control activities and decisions in the short term;
- Strategic decisions characteristic long-term and / or employing global company.

The data represents the raw material of any management system. All data are considered handled and processed regardless of their nature, their formal or informal or supports on which it is located. Management models regroup their own a domain procedures. Such a model contains data for:

- Accountant, specific financial accounting;
- Technology domain specific manufacturing production;

- Sales specific commercial field.

Management rules permit processing and use information in accordance with the objectives of the system. Within a company that manufactures and / or commercial can be identified following management rules:

- Supply is achieved when the stock actually stock falls below normal;
- A raw material is stored in one or more management;
- Second quality products price is reduced by 8% etc.
- Evaluation of materials is done according to the first in / first out method;

The notion of the domain derive from the concept of subsystem management information determined by functional criteria, which are picked other two concepts: the management and rules management. Management information system provides rules for obtaining and providing information requested by the user using IT means, to base decisions on a specific area within the company. Current management systems are integrated. They are characterized by the principle of introducing multiple unique data and processing them according to the needs of specific customer information [2], [4].

For example a system information integrated accounting system is characterized by placing unique data taken from primary documents that maintains a unique database of accounting which will subsequently be exploited in ensuring the specific work of financial accounting and those specific management accounting responding thus processing requirements of all users.

The realization of computer system information can opt for one of the following solutions:

- a centralized computer system;
- a decentralized system;

The centralized IT is characterized by the fact that the whole process of storage and data processing and system development is performed at a single location where there is only one computer system, usually a mainframe that stores a database unique and all application programs. Users interact with the system through terminals.

The advantages of centralization:

- Effective control over the use and development of software;
- Control over data security and integrity;
- Resource sharing hardware, software and data between users;
- Eliminating the risk of incompatible hardware and software in the system;
- Promote easily standards (technical, design, procedural etc.) throughout the system;
- Rendering the services requested by the users computing power of the central system such as mainframe.

Centralization disadvantages:

- Fall of the computer system blocks all users;
- Corruption of data and programs, deliberate or accidental, affecting all users;
- The system may be slow and inflexible to the needs of users, often insufficiently adapted to local needs or group of users;
- Can achieve a high response time when multiple simultaneous requests users.

Decentralized computer system is characterized by the fact that data, software and computing power are dispersed in different locations, even geographically dispersed of the organization. Processing is done on personal computers or in a network of independent local.

The advantages of decentralisation:

- Data is stored and processed locally;
- Software is better adapted to local needs;
- Damage hardware, software or database at a location take not affects other locations;
- System configuration can be designed according to the needs of various departments within the organization or even local users;
- Greater autonomy and motivation to the local user.

The disadvantages of decentralisation:

- Risks related to hardware and software incompatibilities between different locations;
- Inherent appearance of duplication of data and software in different locations;
- Difficulty of complex projects at local level;
- The risk of fragmentation of IT policy;
- Higher costs compared to the centralized system.

Decentralization must be such as full responsibility and authority for decentralized functions are belonging to the local management; one to ensure alignment with the standards used to level and overall organization;

At central level should be achieved:

- a wide development strategy and organization;
- a communications management within the local network of the organization;
- a data management;
- a disaster recovery.

Until a few years ago it was geared towards decentralization trend, but currently there is a clear trend towards centralization oriented, especially due to the emergence of networks with a large number of users such as internet [3], [5].

Architecture promoted for realization of decentralized systems is client-server architecture characterized by the fact that applications and data available to users are dispersed on different hardware depending on the number of users who should have access and computing power needed.

The hardware components are:

- Workstations, PCs, used by individual users;
- Departmental servers shared by users characterized by the same processing needs;
- Central server shared by all users.

Software exploited in the organization is as follows:

Applications to the customers:

- Running on the workstation available to the client;

- Exploiting the data stored on the client;
- They are represented in the main processors tables, word processors, databases exploiting applications.

Departmental applications necessitates:

- Departmental server running on;
- Exploiting the department, the data stored on its server;
- Are shared by users of the same department;

Applications to the organization level necessitates:

- Running on a central server;
- Exploiting the data of general interest stored on the central server;
- Are shared by several departments' users;
- Require higher processing power.

An activity for design and implementation of management systems requires performing rigorous tests and the following of the principles:

- Global approach to solve the problem;
- Using a uniform methodology in the design and implementation of information system;
- Application of the most modern solutions and methods for the design and implementation of information system;
- Structuring information system taking into account the organizational structure of the company.
- The direct participation of beneficiary future activities of analysis, design and implementation of information system. Such participation ensures the clear design and specifications necessary to validate the solutions proposed by designer staggered However ensuring the final product which fully correspond to user requirements;
- Compliance with the legislative framework. Being management information systems become mandatory achievement records, calculating indicators and drawing works of synthesis in accordance with the regulations in force [3], [4].
- Development of appropriate information systems resources available to the user

Since by nature software is subject to change, this change must be anticipated and controlled; Compromises are inherent in software development and they should be explained and documented. Success factors in achieving system information:

- User involvement final
- Executive management support
- Clarity requirements
- Planning.

Information system architecture is generic solution processes relating to data processing that must be done and how data integration and processing. In other words, architecture is a constructive solution of the system and reflects management's strategic vision on how the organization works. The company's global information system decomposes into subsystems, each covering a distinct area of activity. In turn, each application subsystem is broken down into each covering a distinct activity in the field. For example, for the commercial information subsystem will decompose into separate applications for each of the following activities: purchasing, sales, marketing [1], [6].

The decomposition process continues and the next step will be defined for each application procedures realizing distinct functions within the application, for directing processing procedures, procedures for updating the database, procedures for consultation of the database. In turn, the procedures are divided into modules. These include code sequences making each distinct function in the procedure. For example, a procedure for updating the database will include: a module for adding records, records an edit mode, a mode of deleting records. Descending strategy called top-down rationale decomposition of complex systems into components having a less complex, defined by fields of activity for example, and successively going through multiple levels of detail within each defined component. Through this approach, the computer system acquires a hierarchical modular structure in which each component performs a specific function and its operation will be coordinated components placed at the next higher hierarchical level.

- Apply complex information systems, covering a wide area of coverage;
- Ensures a global solutions unit at a conceptual level for the entire system, its components will be designed and developed independently (on a schedule), priorities are fixed at the option of the customer or

the importance of those components and wires required in the global system.

As the design components of the overall architecture of the computer system will test them in the final product and then integrate the functionality of this and will also be checked.

It requires an effort both in the analysis, requiring a very thorough and comprehensive analysis given the complexity of information processes undergone computerization, and the design and implementation which requires special financial efforts. In the process of integrating components will not show particular problems due to uniform design and implementation strategy defined at the start of the project [2], [3].

Strategy upward called bottom-up initiative promotes in each management area such as accounting, commercial, manufacturing etc, without a solution defined framework and architecture for global information system across the organization. Management systems are designed performed and operates independently of management by addressing the needs of the areas for which they were made, after which they precede to their integration into the global information system of the organization.

The lack of unified strategy such as plan hardware and software is a unified solution design and implementation of a low risk integration of subsystems of management made in the system of the organization.

### **3. Information system based on a relational database for sales and marketing designed as a data warehouse**

An interesting idea for marketing and sale department is to make simulations and scenarios based on different sets of data. An information system based on a relational database for sales and marketing [3], [5].

Building a data warehouse there are three models: type star, snowflake patterns type and constellation type models. Conceptual models are multidimensional and designed to organize data necessary decision-making process on issues. The models may change depending on the context, presenting the data in a structured, easily designed and accessible to end users.

In such a model is highlighted:

- ♦ quantitative data centralized called measures of activity
- ♦ quantitative criteria for centralized aggregation, referred sizes
- ♦ relational table that stores the measures identified by the facts dimensions is called table
- ♦ Tables where aggregation criteria has explicit codes, called type tables list. Facts associated table.

The star is the type of aggregation criteria when codes are explained in type tables list. Using data from lists, star type structure enables higher levels of aggregation on the initial size [4], [6].

### **Data warehouse star**

The constellation type contains several schemes that use the same type star catalogs. The advantage is that the same warehouse can store different facts that have certain common coordinates and therefore share the same lists.

### **Deposit constellation**

The type is snowflake if any alternative classifications for the same code by integrating undersize and alternative dimensions. To analyze the evolution of the value of Supplies Company based on several criteria required of users, you can define a data warehouse type star.

In figure 1 is described a star warehouse model for a business:

In such a model the dimensions have a corresponding key in the fact tables (ex. Id\_financial – primary key from Financial has a corresponding key in Fact business – foreign key). This model permits to create complex query by simply choose the attributes from dimensions and a measure from the fact table. It also is possible to create graphics based on queries that contain attributes from dimension tables and measures from the fact table.

Inserting data into dimensions can be made through an insert SQL command:

```
INSERT INTO SALES_REPRESENTATIVES (ID_SALES_REPRESENTATIVES,
ID_HR, ID_MARKETING, ID_SALE, SALES_QTY_PER_PERSON, SALE_
DATE) VALUES (1, '5', '4', '3', 56, '03/23/2017');
```

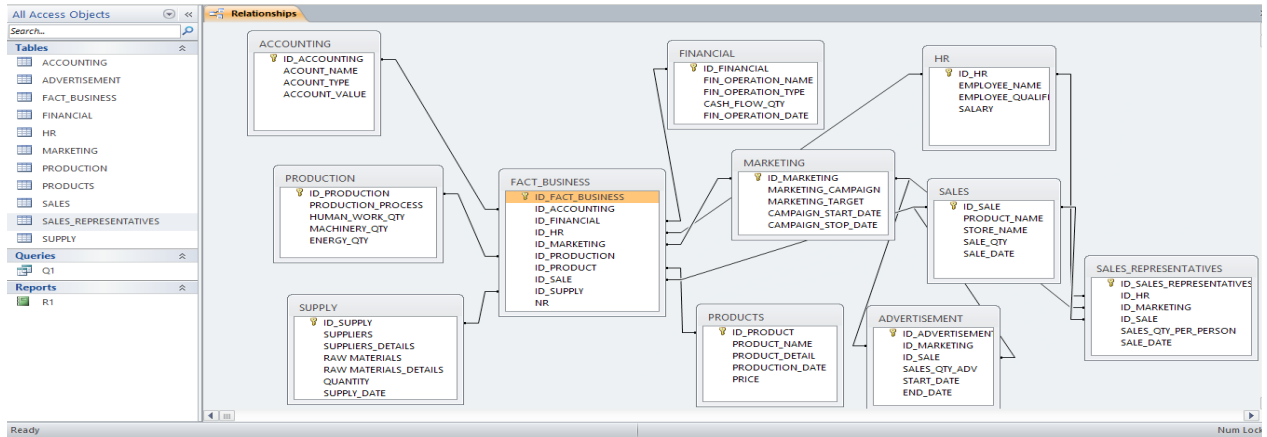


Figure 1 – A star warehouse model for business

Inserting data into the fact table is made also through an insert SQL command based on a trigger fired when inserted data into dimensions is:

```
INSERT INTO FACT_BI1 (ID_FACT_BI1, ID_ACCOUNTING, ID_
FINANCIAL, ID_HR, ID_MARKETING, ID_PRODUCTION, ID_PRODUCT, ID_
SALE, ID_SUPPLY, NR) VALUES (1, 3, 6, 4, 2, 5, 6, 2, 1, 3);
```

Creating a query into a star model warehouse:

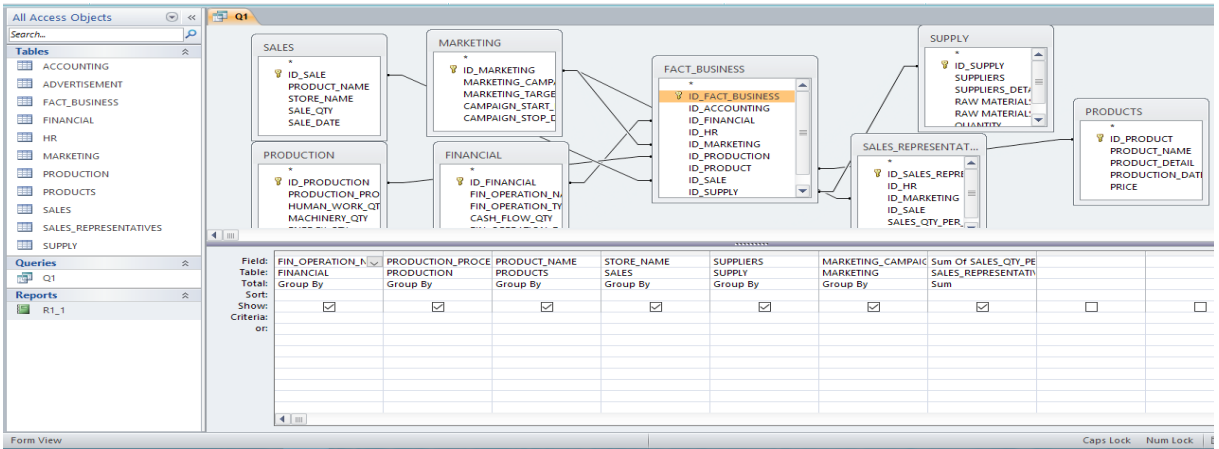


Figure 2 – Building a query in a star warehouse model for business

The query code:

```
SELECT DISTINCTROW FINANCIAL.FIN_OPERATION_NAME, PRODUCTION.
PRODUCTION_PROCESS, PRODUCTS.PRODUCT_NAME, SALES.STORE_NAME,
SUPPLY.SUPPLIERS, MARKETING.MARKETING_CAMPAIGN, Sum(SALES_
REPRESENTATIVES.SALES_QTY_PER_PERSON) AS [Sum Of SALES_QTY_
PER_PERSON]
```

```
FROM SALES INNER JOIN ((MARKETING INNER JOIN SALES_
REPRESENTATIVES ON MARKETING.[ID_MARKETING] = SALES_
REPRESENTATIVES.[ID_MARKETING])) INNER JOIN (SUPPLY INNER
JOIN (PRODUCTS INNER JOIN (PRODUCTION INNER JOIN (FINANCIAL
INNER JOIN FACT_BUSINESS ON FINANCIAL.[ID_FINANCIAL] = FACT_
BUSINESS.[ID_FINANCIAL]) ON PRODUCTION.[ID_PRODUCTION] =
FACT_BUSINESS.[ID_PRODUCTION]) ON PRODUCTS.[ID_PRODUCT] =
FACT_BUSINESS.[ID_PRODUCT]) ON SUPPLY.[ID_SUPPLY] = FACT_
BUSINESS.[ID_SUPPLY]) ON MARKETING.[ID_MARKETING] = FACT_
BUSINESS.[ID_MARKETING]) ON SALES.[ID_SALE] = FACT_BUSINESS.
[ID_SALE]
```

```
GROUP BY FINANCIAL.FIN_OPERATION_NAME, PRODUCTION.PRODUCTION_
PROCESS, PRODUCTS.PRODUCT_NAME, SALES.STORE_NAME, SUPPLY.
SUPPLIERS, MARKETING.MARKETING_CAMPAIGN;
```

Based on the queries it can be built reports that helps the decision makers to choose what direction should have their actions. An example of a report based on the query above is represented in the image bellow:

Report 1

FIN_OPERATION	PRODUCTION_PR	PRODUCT_NAME	STORE_NAME	SUPPLIERS	MARKETING_CAMPAIGN	PERSON
FIN_OPERATION	PRODUCTION_PR	PRODUCT 1	STORE 1	SUPPLIER 1	CAMPAIGN 1	47
FIN_OPERATION	PRODUCTION_PR	PRODUCT 1	STORE 1	SUPPLIER 2	CAMPAIGN 1	47
FIN_OPERATION	PRODUCTION_PR	PRODUCT 3	STORE 3	SUPPLIER 1	CAMPAIGN 2	83
FIN_OPERATION	PRODUCTION_PR	PRODUCT 2	STORE 2	SUPPLIER 2	CAMPAIGN 2	83
FIN_OPERATION	PRODUCTION_PR	PRODUCT 3	STORE 3	SUPPLIER 3	CAMPAIGN 1	47
FIN_OPERATION	PRODUCTION_PR	PRODUCT 4	STORE 4	SUPPLIER 2	CAMPAIGN 3	56
FIN_OPERATION	PRODUCTION_PR	PRODUCT 1	STORE 3	SUPPLIER 3	CAMPAIGN 3	56
FIN_OPERATION	PRODUCTION_PR	PRODUCT 3	STORE 4	SUPPLIER 2	CAMPAIGN 2	83
FIN_OPERATION	PRODUCTION_PR	PRODUCT 3	STORE 3	SUPPLIER 3	CAMPAIGN 3	56
FIN_OPERATION	PRODUCTION_PR	PRODUCT 4	STORE 4	SUPPLIER 4	CAMPAIGN 4	87
Total SUM						645

Saturday, March 18, 2017

Page 1 of 1

Figure 3 – A report based on a query in a star warehouse model for business

Data - acts as a bridge between the machine components (hardware and software) and the Human component. The database contains both the operational data (set of records that is working) and metadata.

Data stored in a database are persistent data, ie data stored on magnetic media remain independent of the implementation of application programs. Persistent data of a database is inserted, deleted or updated using the data input (from the keyboard, the reading of data files or receive messages). The input data are, in general, non-persistent data; they are generated by users and are stored (becoming persistent data) only after being validated (accepted) by the DBMS. The outputs of a data base system are also non-persistent data; they come from operations query the database and made available to the user as impressions, printed reports, etc. [4], [6].

#### 4. Conclusions

The main aim of system information systems is to use data to multiple users for different purposes (applications). Most often, a database is not made in isolation. Especially for the realization of applications with databases that are part of an integrated, but not limited to an application data must be used in other applications. This reduces the storage space required and effort loading /

validation. Another facility is to access as simple data users without them having to know the entire database structure; this remains the responsibility of the database administrator. The end user or intensive (nontechnical users) who are the beneficiaries of application database has little knowledge of computer. That he does not care database structure but only use as smooth. For this DBMS software should provide specialized tools for developing application programs as user-friendly, to guide and to help beneficiary database usage [1], [3]. An information system can change the perspective of the management through the analysis of data and the possibilities of storing large amount of business data in databases that offers powerful tools to query and update information according to the reality of the business environment. Based on complex reports the managers may take a decision that reflects a certain scenario that improve an economic flow or maximize a specific indicator.

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## **Comparative Study on the Sustainable Economic Growth of European Union Countries**

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**Abstract:** This article expose statistical lawfulness which is formed between gross domestic product growth based on the value of tangible assets (fixed) and the number of persons employed in the economy for 10 countries in Western and Central European Community. To achieve this knowledge we used econometric analysis methodology, identifies form and check equation model based on sustainability criteria aimed intensity correlation significance and residual variable parameter estimators. The study is customized for a number of 9 values which covers the period 2006-2014 and underlying multifactorial development of econometric models for each of the 10 individual states. The research also highlights the importance of gross domestic product

as synthetic macroeconomic indicator dynamics registered in the time interval of two exogenous variables and influence the dynamics that shape distinctly for each state a certain tendency of growth.

**Keywords:** gross domestic product, tangible assets (fixed), employment, econometric model.

**JEL Classification:** E24, F22

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## 1. Introduction

Economic growth and development are two goals for the struggling economies of all Member States generating competition sequential ensuring continuity of production of goods and services, by providing major changes in organizations and the business environment but also in the insurance management competitive macroeconomic [1].

Economic theories show that transforming economies is reflected by the nature of relations between states, the thinking of competition policy [2] the change in the quality of life thus creating an environment conducive to adapt to the demands of productive States [3].

Some authors consider that the growth in the economy is determined [4], by putting into use of factors of production in full compliance with primary factors leading to global capital to innovative scientific accumulation; the investment triggers higher advances by imports of competitive technologies [5].

Others, calling into question the lack of technological moments, believe that analysis of the development of each country is a fact that is driven by a complex network of factors that do nothing but demonstrate the differences between nations [6], and show the effects this increase social welfare at the individual level.

According to Nobel laureate Ian Tinbergen, who believes that there are only two ways to increase, we only have two vectors of development [7], one that we can identify in growth under load gross and another called growth through intelligence. Economist lose sight of that growth can be identified and other dynamic indicators as gross domestic product, the value of tangible assets (fixed) number of persons employed and analyzed at country level.

Balance growth, according to economist Leon Walras theory [7] is secured by the lack of unemployment, falling inflation by ensuring price stability by ensuring a

balanced budget, balance of payments by providing a social balance, the stability of a GDP [8], by increasing people employed and the fairness of national income. European nations are convinced that the process of sustainable economic growth [9], is in fact a central element of which goes to ensure a high standard of living [10], but as other economists believe that the process is long lasting, and nations have set a target of this goal.

According to some economists [11], the increase is only a high standard of living that can be assessed in addition to the axis indefinitely without oscillations conditional on GDP, labor market employment, lower unemployment and overall economic diversity [12].

Researchers reveal the dynamics of growth and development by providing ascendancy GDP [13], a country over a longer period of time depending on the value of tangible assets (fixed) and the number of persons employed in the economy, leading so that sizes are not random, leading to quantitative and structural changes at the macroeconomic level that actually can sustain performance and development [14].

In the European Union this growth, much trumpeted globally, has been damaged by the end of 2011. It appears that this economic setback was particularly high especially taken by the influence of lack of confidence, the debt crisis but each member country of the Union and global influence [15].

In 2012, it found a stabilization of financial markets and due to the adoption of measures by European countries, debt consolidation and a slight increase not only in Europe but also worldwide.

Worldwide economic policies [16] will focus on GDP growth to 4% growth in exports and imports, thus increasing the quality of life and social well-being of each individual [17].

The level and growth of economic potential of a state have a synthetic form by measuring gross domestic product. Size and dynamics of gross domestic product [18], are directly influenced by the amount and quality of use, both tangible (fixed) of the country's economy and the people employed in the economy [19]. In the context of this economic logic states that: tangible (fixed) in the economy are a measure of technical equipment, the implementation of investment programs for securing and developing the necessary technological potential economic process development and influencing the defining achievement and GDP growth;

contribution of people employed by its economic efficiency contribute to the economic outturn dimensioned as gross domestic product [20].

In this context of interdependent variables defining system dynamics analysis presents gross domestic product according to the dynamics value tangible assets (fixed) in the economy and that the dynamics of employed people by applying a rigorous econometric modeling methodologies.

Reasons set can provide econometric study support the opportunity to obtain the information necessary to enable the foundation of macroeconomic decisions to promote a real economic progress, sustainable and strengthened.

## 2. Materials and Methods

To show the size of European economic growth and development, economists have handled various econometric models, which do nothing but demonstrate that the development of macro top rank of states has in trying to increase the quality of life and social welfare [21]. Sizing by econometric language does nothing to demonstrate tokens sustainable economic growth trends highlighting the intensity and used model.

The statistics are used to develop multifactor model of the dynamics of gross domestic product by dynamic value of tangible assets (fixed) in the economy and employment refers to the period 2006-2014 for 10 European countries: Belgium, Czech Republic, Denmark, France, Italy, Luxembourg, Netherlands, Austria, Finland and United Kingdom.

To define mathematical econometric model form of gross domestic product proceeds to analyze the correlation between variables system under study. How it is distributed point cloud offers suggestive and useful information on the form interdependence of system variables (Andrew T., 2003). In these circumstances opting for a general expression of multifactor model to estimate the dependent variable (GDP -  $y$ ) depending on exogenous variables (total fixed assets  $x_1$  - and total employment  $x_2$ ), the regression equation  $y = a + bx_1 + cx_2 + u$ ,  $u$  is the residual variable, for each of the 10 European countries.

Econometric models relating to the 10 European countries are defined by multifactor regression equations using linear least squares and are listed in Table 1 and Table 2 respectively.

Table 1

## Synoptic table for econometric comparison

Econometric indicators	Belgium	Czech Republic	Denmark	France	Italy
Econometric model – regression equation	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$
Model estimators					
“a”	291310.7	-205207.8	115306.3	-3113304	209640.8
Probability	0.2995	0.0138	0.0240	0.0086	0.7375
“b”	0.332499	0.188032	0.295117	0.109588	0.076498
Probability	0.0032	0.0000	0.0000	0.0001	0.0239
“c”	-62.37233	46.75503	-37.42095	160.9899	40.25271
Probability	0.4225	0.0097	0.0130	0.0024	0.0913
Correlation: $R = \sqrt{R^2}$	0.98896	0.99407	0.99362	0.99458	0.77632
R-squared %	97.8037	98.8186	98.7287	98.9191	60.2678
Durbin-Watson stat	1.903087	1.670448	1.916534	2.225745	2.300135
Theil Inequality Coefficient	0.4746%	0.4374%	0.2598%	0.2251%	0.5165%
S.E. of regression – absolute expression	4269.912	1628.224	1547.597	11117.81	20308.45
S.E. of regression – relative expression	1.1648%	1.0748%	0.6369%	0.5519%	1.2652%
Jarque-Bera Probability	0,855536 65.1963%	1.227254 54.1384%	0.256085 87.9816%	1.981320 37.1331%	0.721894 69.7016%
F-statistic	133.5955	250.9420	232.9795	274.5584	4.550559
Ftable: $F_{P=0.9; f_1=k; f_2=n-k}$ k = 3; n = 9	5.14	5.14	5.14	5.14	5.14
Prob (F-statistic)	0.000011	0.000002	0.000002	0.000001	0.062723
Akaike info criterion	19.81778	17.88957	17.78800	21.73169	22.93666

Schwarz criterion	19.88352	17.95531	17.85374	21.79743	23.00241
Heteroskedasticity Test: White	Homoskedasticity	Homoskedasticity	Homoskedasticity	Homoskedasticity	Homoskedasticity
Sample: 2006-2014	Included observations: 9	Included observations: 9	Included observations: 9	Included observations: 9	Included observations: 9

Source: author's calculus

Methodology to elaborate econometric models offered by the software Eviews, made it possible to present the system of indicators in Table 1 and Table 2. These results show an analytical form expression of the regression equation econometric model for each of the 10 European states are associated indicators that provide the basis for assessing the degree of viability required information of each model.

**Table 2**

**Synoptic table for econometric comparison**

Econometric indicators	Luxembourg	Netherlands	Austria	Finland	United Kingdom
Econometric model – regression equation	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$	Multifactorial linear $\hat{y} = a + b x_1 + c x_2$
Model estimators					
“a”	-156738.5	-82998.01	-467759.3	-52019.20	524663.0
Probability	0.1408	0.8741	0.0916	0.7154	0.4701
“b”	-0.796226	0.175691	0.038245	0.188577	0.540776
Probability	0.2830	0.0163	0.5161	0.0023	0.0000
“c”	1211.112	43.12866	176.7379	52.14417	-37.40115
Probability	0.1279	0.5192	0.0501	0.4066	0.2139
Correlation: $R = \sqrt{R^2}$	0.98191	0.86658	0.98980	0.9375	0.9914
R-squared %	96.4162	75.0966	97.9718	87.8926	98.2969
Durbin-Watson stat	2.074450	1.256851	0.992242	2.017553	1.645490

Theil In-equality Coefficient	1.1218%	0.9299%	0.4650%	0.9189%	0.5688%
S.E. of regression – absolute expression	1121.685	14390.45	3423.480	4321.133	27719.50
S.E. of regression – relative expression	2.7668%	2.2792%	1.1414%	2.2536%	1.3985%
Jarque-Bera Probability	0.046638 97.6951%	0.164412 90.7369%	0.904613 63.6159%	3.931137 14.0076%	0.950643 62.1685%
F-statistic	80.71090	9.046527	144.9108	21.77832	173.1535
Ftabelar: $F_{P=0.9; f_1=k; f_2=n-k}$ k = 3; n = 9	5.14	5.14	5.14	5.4	5.14
Prob (F-statistic)	0.000046	0.015445	0.000008	0.001775	0.000005
Akaike info criterion	17.14425	22.24772	19.37590	19.84162	23.55886
Schwarz criterion	17.20999	22.31346	19.44165	19.90737	23.62460
Heteroskedasticity Test: White	Homoskedasticity	Homoskedasticity	Homoskedasticity	Homoskedasticity	Homoskedasticity
Sample: 2006-2014	Included observations: 9	Included observations: 9	Included observations: 9	Included observations: 9	Included observations: 9

Source: author's calculus

Econometric models are defined by estimators parameters each regression equations and provides clear and reliable, in statistical terms, to assess the rate of change of GDP by dynamically changing the value of fixed assets and equipment (fixed assets) and those of the number of people employed in economy [23].

For parameter estimators “b” parameter estimators respectively for “c” expose the statistical distribution in Table 3.

In model pertaining to the 10 member states that the estimator parameter “b” expresses the change in the dynamic of gross domestic product (million euro) when the value of tangible assets (fixed assets) increased by one (1 million euro), while maintaining a constant level of other variables in the model level (Total employment). Also identified by each model, size estimator of parameter “c” change the dynamics of gross domestic product (million euro) when the number of people employed increased by one (1 Thousand persons) provided maintenance at a constant value of fixed assets (fixed) [24].

**Table 3**

**Values for estimators “b” and “c” for 10 econometric models for countries**

Country	Estimator “b”	Estimator “c”
1. Belgian	0.332499	-62.37233
2. Czech Republic	0.188032	46.75503
3. Denmark	0.295117	-37.42095
4. France	0.109588	160.9899
5. Italy	0.076498	40.25271
6. Luxembourg	-0.796226	1211.112
7. Netherlands	0.175691	43.12866
8. Austria	0.038245	176.7379
9. Finland	0.188577	52.14417
10. United Kingdom	0.540776	-37.40115

Source: author’s calculus

Series distribution of estimator parameter “b” with three groups of values is shown in Table 4. It notes the existence of a State (Luxembourg) which recorded an average fall in GDP by 0.796226 million euro when the value of tangible fixed assets (fixed) shall be increased by 1 million.

The econometric model of the gross domestic product for Luxembourg identifies the major influence of the variable number of persons employed in the economy. Tangible assets (fixed) registered a value of 67.963 million in 2006 and rose to 104,312.10 million euros in 2014, a relative increase of 53.48%, while gross domestic product registered a relative increase of 46.36%. Under these conditions, the efficiency of use of tangible assets (fixed) calculated as gross domestic product

per 1000 euro tangible assets (fixed) shows a decrease from 491.58 euro in 2006 to 468.76 euro in 2014.

The other nine European countries included in the survey recorded a positive contribution the increase in the value of tangible assets (fixed) to the gross domestic product by size between 0 and 0.5 million euros for eight European countries (Belgium, Czech Republic, Denmark, France, Italy, Netherlands, Austria and Finland) and one country (United Kingdom) which identifies an average annual increase of over 0.5 million euro (EUR 0.540776 million euro).

**Table 4**

**Statistic distribution for parameter “b”**

Tabulation of series: Estimator of “b”				
Sample: 1 - 10				
Included observations: 10				
Number of categories: 3				
			Cumulative	Cumulative
Value	Count	Percent	Count	Percent
[-1, -0.5)	1	10.00	1	10.00
[0, 0.5)	8	80.00	9	90.00
[0.5, 1)	1	10.00	10	100.00
Total	10	100.00	10	100.00

Source: author's calculus

Parameter estimator “c” defines and dimensioned gross domestic product changes following the change in the number of people employed (Total employment) in the structure of the econometric model of the 10 European countries, is presented in Table 5 typical three groups.

The first group included three countries, Belgium, Denmark and the United Kingdom where it is recorded average decline in GDP by increasing the number of persons engaged in economic activity. This situation is liable to show a process of sustained growth of the GDP to the rise in value of tangible assets (fixed). It is noted that in these countries the gross domestic product increased in 2014 compared to 2006, thus: Belgium: + 22.648%, with an average annual growth rate

of + 2.585%; Denmark: +15.510, with an average annual growth rate of + 1.819%; United Kingdom: + 9.256%, with an average annual growth rate of + 1.113%.

The second group includes six states (Czech Republic, France, Italy, Netherlands, Austria and Finland), in terms of size estimator of parameter “c”, which recorded average growth of gross domestic product by value entered in the range of 0 - 500 million euros due to increase by 1000 the number of persons employed. The group presented in Table 5 identifies a European state, Luxembourg, which recorded average growth of gross domestic product by 1211.112 million euros, if the number of employed persons increased by 1000 people.

**Table 5**

**Statistic distribution for parameter “c”**

Tabulation of series: Estimator of “c”				
Sample: 1 - 10				
Included observations: 10				
Number of categories: 3				
			Cumulative	Cumulative
Value	Count	Percent	Count	Percent
[-500, 0)	3	30.00	3	30.00
[0, 500)	6	60.00	9	90.00
[1000, 1500)	1	10.00	10	100.00
Total	10	100.00	10	100.00

Source: author's calculus

Bringing forward the increase in the number of people employed GDP growth shows a positive dynamics of social productivity of labor [25], and at the same time if social productivity of labor ahead of number of persons employed in the economy, the proportion of gross domestic product account social productivity of labor is greater than 50%. In these states, the national economy is characterized by a growth process intensive type, through the use of labor, ensuring sustainable development and performance in terms of profitability social, and those of raising the level of living of the population [26].

Also, when efficiency of tangible assets (fixed), calculated as the ratio between gross domestic product and the value of tangible assets, ahead of the value of tangible assets (fixed) and GDP has a positive dynamics is estimated that

mainstream economy is intensive in the use tangible terms. In these countries the national economy has conditions to achieve sustainable economic growth by increasing profitability and with increased national income.

Table 6

## Inequality system for activity type

Country		Economic growth type
1. Belgium	RGDP > REAF < RAF +2.585% > -0.6135% < +3.215%	Extensive growth through use of fixed assets
	RGDP > RW > RE +2.585% > +1.8771% > +0.694%	Intensive growth through use of employment
2. Czech Republic	RGDP > REAF < RAF +2.834% > +0.2828% < +2.545%	Extensive growth through use of fixed assets
	RGDP > RW > RE +2.834% > +2.3787% > +0.444%	Intensive growth through use of employment
3. Denmark	RGDP > REAF < RAF +1.819% > +0.0720% < +1.745%	Extensive growth through use of fixed assets
	RGDP > RW > RE +1.819% < +2.0956% > -0.271%	Intensive growth through use of employment
4. France	RGDP > REAF < RAF +1.769% > -1.4356% < +3.250%	Extensive growth through use of fixed assets
	RGDP > RW > RE +1.769% > +1.4516% > +0.313%	Intensive growth through use of employment
5. Italy	RGDP > REAF < RAF +0.513% > -2.1169% < +2.690%	Extensive growth through use of fixed assets
	RGDP > RW > RE +0.513% < +1.0922% > -4.496%	Intensive growth through use of employment
6. Luxembourg	RGDP > REAF < RAF +4.876% > -0.5919% < +5.501%	Extensive growth through use of fixed assets
	RGDP > RW > RE +4.876% > +2.7012% > +2.118%	Intensive growth through use of employment
7. Netherlands	RGDP > REAF < RAF +1.699% > -0.2444% < +1.944%	Extensive growth through use of fixed assets
	RGDP > RW > RE +1.699% > +1.4606% > +0.235%	Intensive growth through use of employment

8. Austria	RGDP > REAF < RAF +2.681% > -1.2527% < +3.985%	Extensive growth through use of fixed assets
	RGDP > RW > RE +2.681% > +1.7806% > +0.664%	Intensive growth through use of employment
9. Finland	RGDP > REAF < RAF +2.184% > +0.9901% < +3.207%	Extensive growth through use of fixed assets
	RGDP > RW > RE +2.184% > +1.9574% > +0.222%	Intensive growth through use of employment
10. United Kingdom	RGDP > REAF < RAF +1.113% > -0.0819% < +1.196%	Extensive growth through use of fixed assets
	RGDP > RW < RE +1.113% > +0.4468% < +0.663%	Extensive growth through use of employment

Source: author's calculus

Note. Table notifications:

RGDP = Average annual increase/decrease of GDP

REAF = Average annual increase/decrease of fixed assets efficiency

RAF = Average annual increase/decrease of fixed assets value

RW = Average annual increase/decrease of social productivity

RE = Average annual increase/decrease of employment

Average annual increase/decrease is calculated as geometric average.

The results presented in Table 6 reveals an unquestionable truth namely that 9 of the 10 European Union countries have registered growth between 2006 and 2014 intensive type [27], through the use of labor, technical equipment and technologies submitted on line technical progress, business process management and organization favored social labor productivity growth in a dynamic influencing the dynamics of the number of persons employed [28].

There is an exception to this general statement, the United Kingdom, where the average rate of annual productivity growth social work (RW = + 0.4468%) is ahead of the average pace of annual growth in the number of people employed (RE = + 0.663 %) and the conclusion of extensive economic growth is through the use of labor which can induce a state of vulnerability to the future results [29].

### 3. Results

Interpretation of results included in the overview of comparative econometric indicators (Table 1 and Table 2) on the 10 European countries, provide statistical support and highlight the viability of the econometric model multifactorial, as an expression of lawfulness growth for the period of the research, 2006-2014.

The results of calculations provides support information to make comparisons between states and concerned to identify both aspects that differentiate them and aspects of similarity between countries with respect to economic growth, sustainability and enhanced state of the economy, the prospects for sustainable development.

The conclusion offered by the results listed in Table 1 and Table 2, econometric models converge towards sustainability assessment form linear regression equations multifactorial and recognition as secure information is based on econometric methodology rigorously substantiated.

The main considerations supporting the fulfillment of the objective of knowledge proposed by this study are: strength of the correlation between the model's variables (growth of gross domestic product by value of fixed assets and number of employees) expressed as the ratio of the correlation is proven statistically to be significantly different zero and very strong 9 out of 10 European countries. The exception is Italy, where appropriate econometric model of the gross domestic product is assigned a ratio of correlation which has a size of 0.77632 and not confirmed statistically significantly different from zero, based on the "Criterion F" because threshold is 6.2723% and exceeds the agreed limit of acceptance of 5%. The coefficient of determination (R-squared) expresses how much of modifying endogenous variable is determined by two exogenous variables change, the value of intangible assets (fixed) and the number of people employed in the economy. 9 of the 10 European countries it is found that during the years 2006-2014 this figure exceeds 75%, the difference up to a 100% is the influence of other variables included in the model or size of the residual variable. Italy coefficient of determination (R-squared) has a size of 60.3%, and the influence of other variables is likely to explain almost 40% of gross domestic product dynamics. Durbin-Watson statistic coefficient by its size, refute or confirm the status of the autocorrelation of the residual variable levels. To assess the levels of the error

term is not necessary auto correlated Durbin-Watson stat to have a size which is positioned in the range  $d_2 < DW < 4-d_2$ ,  $1.699 < DW < 4-1.699=2.301$ .

Acceptance range of waste non-auto correlation hypothesis is stated based on the distribution Durbin - Watson for materiality,  $q = 5\%$ , the number of exogenous variables,  $k = 2$  and the number of observations,  $n = 9$ .

Following this examination statistical results: in case of 8 European countries (Belgium, Czech Republic, Denmark, France, Italy, Luxembourg, Finland and the United Kingdom) econometric model is certified as sustainable through the Durbin-Watson criterion; 2 States, Netherlands and Austria, multifactor model Linear has no need for sustainability, variants term residual auto correlates which can affect the correct interpretation of the following statistical indicators: estimate the standard deviation of the equation is less than the actual and implicit coefficient determination and correlation ratio that are oversized Accordingly intensity interdependence of system variables is greater than in reality; "The criterion t" used to test the significance of the estimates of the parameters of the regression equation is not fully conclusive in this case t-statistic values are overstated, which would confirm a significantly better parameters.

Expression relative to estimate the standard error of regression equation provides

$$\left( \hat{V}_{y.\hat{y}} = \frac{\text{S.E. of regression}}{\text{Mean dependent var}} \cdot 100 \right) \begin{array}{l} \text{information that relates to the viability} \\ \text{of the model (equation) for an estimate} \\ \text{of foresight, if it has a size that does not} \end{array}$$

exceed the acceptance regarded more very restrictive than 5%. Econometric models relating to the 10 European states are certified as sustainable in terms of this criterion which gives them an added safety statistics to estimate the lawfulness GDP dynamics according to the variables considered, the value of fixed assets (fixed) and the number of people employed in the economy.

A statistical significance similar to that which presents the estimate of the relative standard error of the regression equation is obtained by calculating and interpreting "irregularity coefficient (inequality) of Theil". This coefficient can take a value between zero and one (100%). and it is considered as a very good size for assessing the viability of the model when Th does not exceed 5%. Econometric models relating to all 10 European countries included in the survey are statistically proven as safe viable quantities "irregularity coefficient (inequality) of Theil" are very low, the highest being 1.12% for the Luxembourg state.

“Coefficient statistically Jarque-Bera” and the probability associated coefficient JB under the law Distribution Hi-Square 2 degrees of freedom, underlying acceptance or rejection of the hypothesis of disposition values term residual according to the law of normal distribution (test for normality of distribution residual variable).

In 7 European countries (Belgium, Denmark, Italy, Luxembourg, Netherlands, Austria and the United Kingdom) size “Coefficient statistically Jarque-Bera” and the likelihood that attested assimilation distribution of the residual variable with distribution theoretical normal-rated is the theme statistic acceptance of this hypothesis, because the probability factor associated JB critical limit is greater than 60%.

Econometric models developed for the other three countries, Czech Republic, France and Finland are not confirmed statistically viable through the criterion of the distribution asymptotically normal waste at normal distribution-rated because the probability associated with “Coefficient statistically Jarque-Bera” have sizes below the threshold of 60 % (54.1384% 37.1331% and 14.0076%).

It states that where not confirm the hypothesis of normality of the distribution of the residual period, the quality parameters of the equation to be of maximum verisimilitude and the calculation of confidence intervals may be subject to an assessment of mistrust.

The test there is the heteroscedasticity waste; “White Heteroskedasticity Test” confirms property homoscedasticity of all 10 models of the gross domestic product, based on two statistical criteria applied, “Criterion F” and “ $\chi^2$  criterion” on the auxiliary regression equation the squared residual levels depending on exogenous variables.

In these conditions can be formulated following assessments of statistical nature: waste dispersion is constant; application “Criterion t” for the significance of regression equation parameters is fully conclusive; econometric model attaches importance indiscriminate any comments irrespective of the size of the residual variable.

According to the software Eviews, are exposed in Table 1 and Table 2, two specific indicators of statistical information: “The criterion information Akaike” and “statistical criteria Schwarz” having practical utility where it is to take a decision on the mathematical model the correlation typology and number of exogenous

variables, according to the development of several model variants that are subject to optional decision. The two indicators have sizes close and confirm the right decision, better for lower values [30].

A summary conclusion about the reliability of models multifactorial GDP dynamics based on the value of fixed assets (fixed) and the number of people employed in economy, 10 countries in western and central Europe, can be formulated with complete safety. The models are retained as a source of practical information to base decisions on economic policy and sustained statistically proven effect in terms of sustainable economic growth and prosperity.

#### 4. Conclusions

After analysis, it appears that whatever the degree of development of a country, particular emphasis in determining an ideal position for growth is placed on macroeconomic policy objectives which should ensure a high stability as a direct consequence of economic growth.

The 10 European countries analyzed to have sustained economic growth, should develop economic development strategies over a period of 9 or 10 years, during viable to be subjected to a pertinent analysis after which to highlight the clarity of economic development. Thus, states have registered an increase in the period analyzed using labor involved, leading to the use of business process management who competed in an increase in social productivity of labor in a dynamic growth exceeding the number of people employed.

At the same time finding identifies a statistical calculations proving a course of economic growth through the use of extensive fixed assets in all 10 states. Increasing the value of tangible assets (fixed) brings forward increase efficiency in these conditions economic growth is characterized as the extensive nature with limited possibilities to foster economic progress consolidated, efficient and sustainable.

The period under review is marked clearly by economic dysfunctions caused by the financial and economic crisis with a general plan manifestation of international trade relations and productive investment and domestic yields, which covered 2008-2011 and which was felt by intensities relatively different in each EU state.

Research carried out demonstrates the need for national governments to establish a consummate clarity and prioritization of objectives of macroeconomic policy objectives are clear strategic and tactical directly influenced by Central Bank and other international bodies. It requires country-level coordination of macroeconomic policies so that decisions should not be discordant with possible optimization of indicators showing gross domestic product growth based on the value of tangible assets (fixed) and the number of persons employed in the economy. Indicators used in research have given us on the one hand relevant information about the current economic situation of the 10 countries analyzed, information that can be used at management of macroeconomic policies but also in the management of an organization to achieve high performance at country level.

The aim is that the European Union to develop policies that increase the national economies of the countries analyzed by ensuring fairness clear development through protectionism, industrialization, finance industries own sustainable investments, clarity markets but also by determining new industries and protection against existing and providing new jobs.

Research suggests that in the future, not only the state to be involved in economic growth but also private companies who can support themselves thus providing new jobs by increasing the number of people employed in the economy.

The viability of this research lies by concerns of Member States analyzed to attract foreign investment by engaging in liberalization of capital markets, thereby increasing local economic efficiency and protect property rights and competition.

The authors of this research want to show the need for competitiveness and innovation in the EU member states, seen as an economic capacity that may lead to a raising of living standards and the employment rate by increasing productivity through interactions between economic policies and agencies economic and institutional framework to determine a suitable human skills increase.

This section is not mandatory, but can be added to the manuscript if the discussion is unusually long or complex.

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